Safety Data Sheet

Issue Date: 10-Sep-2013 **Revision Date:** 15-Jun-2015 **Version** 1

1. IDENTIFICATION

Product Identifier

Product Name Hi Tech Sealant - Clear

Product Code 17600, 18409
UN/ID No UN1993

Other means of identification

SDS # RD-0042CC

Recommended use of the chemical and restrictions on use

Recommended Use For sealing around windows, doors & similar areas, where a crystal clear bead is desired. Paintable.

Details of the supplier of the safety data sheet

Supplier Address

ACE Hardware Corp.
2200 Kensington Ct
Oak Brook, IL 60523

Emergency Telephone Number

Company Phone Number 630-990-6600
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Clear viscous **Physical State** Viscous paste **Odor** Solvent

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Aspiration toxicity	Category 1
Flammable Liquids	Category 3

Hazards Not Otherwise Classified (HNOC)

May be harmful in contact with skin

Signal Word

Danger

Hazard Statements

Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May be fatal if swallowed and enters airways
Flammable liquid and vapor

Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof equipment
Use only non-sparking tools
Take precautionary measures against static discharge

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Get medical attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Get medical attention if symptoms persist
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do not induce vomiting
IN CASE OF FIRE: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Xylene	1330-20-7	<25
Polyalicyclic resin	MIXTURE	<20
Light aliphatic solvent naphtha	64742-48-9	<20
Non-hazardous Ingredients*	Proprietary	<19

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a tradesecret.

*Unlisted ingredients are not considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

4. FIRST-AID MEASURES

First Aid Measures

General Advice Provide this SDS to medical personnel for treatment. Get medical attention for any overexposure.

Eye Contact Immediately flush w/ large quantities of water for @ least 15 minutes, until irritation subsides. Get medical attention.

Skin Contact Wash w/ soap & water for @ least 15 minutes. Get medical attention if symptoms persist. Remove & wash contaminated clothing.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing difficult, give oxygen & contact physician immediately. Only trained individuals should give artificial or administer oxygen.

Ingestion Do not induce vomiting unless directed by medical personnel. If vomiting occurs, lean patient forward to maintain an open airway & prevent aspiration. Get immediate medical attention.

Most important symptoms and effects

Symptoms Inhalation: Vapor harmful if inhaled. Vapor may irritate nose & upper respiratory tract. Inhaled vapor may affect brain or nervous system resulting in dizziness, headache or nausea. Prolonged vapor inhalation may result in severe physical injury.

Eyes: Causes eye irritation.

Ingestion: Material may be harmful or fatal if swallowed. Aspiration of material into lungs due to vomiting can cause chemical pneumonitis, which can be fatal. If ingested, product may cause vomiting, diarrhea & depressed respiration.

Skin: May irritate skin. Prolonged or repeated contact can result in defatting & drying of the skin which can result in skin irritation & dermatitis (skin rash). Can be absorbed through skin.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Provide general supportive measures and treat symptomatically. Aggravated Medical Conditions: Pre-existing eye, skin & respiratory disorders may be aggravated by exposure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon dioxide (CO2). Dry chemical. Water spray (fog). Foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Fire & Explosion Conditions: Flammable. Material will readily ignite @ RT. Vapors may form explosive mixture w/ air. Vapors can travel long distances to a source of ignition & flash back. Eliminate ignition sources: heat, electrical equipment, sparks, pilot lights, stoves & flames. Do not smoke or put in contact w/ oxidizing or caustic materials. Containers may explode if exposed to heat.

Hazardous Combustion Products Smoke, fumes. Carbon monoxide & carbon dioxide can form.

Sensitivity to Static Discharge Take precautionary measures against static discharge.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Wear protective clothing as described in Section 8 of this safety data sheet.
Other Information	Small Spills: 1 drum or less – Level D Equipment (gloves, chemical resistant apron, boots & eye protection). Large Spills: Rubber gloves, rubber boots, face shield & Tyvek suit as a minimum. Minimum level of PPE for releases in which the oxygen level is < 19.5% or is unknown, should be Level B: triple gloves (rubber gloves & nitrile gloves over latex gloves), chemical resistant suit, fire-retardant clothing & boots, hard hat & self-contained breathing apparatus.
For Emergency Responders	Restrict access to spill area.
Environmental Precautions	Minimize use of water to prevent environmental contamination. Prevent spill or rinse from contaminating storm drains, sewers, soil or groundwater. Do not allow discharge containing this material to enter streams, ponds, estuaries, oceans or other waters unless in accordance w/ requirements of National Pollutant Discharge Elimination System (NPDES) permit & permitting authority has been notified in writing prior to discharge. Do not allow discharge containing this material to enter sewer systems w/o previously notifying local sewage treatment plant authority. For information, contact State Water Board or EPA Regional Office Other: U.S. regulations may require reporting of spills of this material reaching surface waters if sheen is formed. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so. Use absorbent material to contain spill.
Methods for Clean-Up	Use clean non-sparking tools to collect absorbed material. Sweep up absorbed material and shovel into suitable containers for disposal. Wash area with soap and water. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Use only with adequate ventilation. Do not breathe vapors. Wear eye/face protection. Wash thoroughly with soap and water after handling. Avoid contact with skin, eyes or clothing. While handling product keep out of reach of children and pets. Do not eat or drink while handling this material. See section 6 of this SDS for clean up instructions. Keep away from heat/sparks/open flames/hot surfaces. —No smoking. Ground/bond container and receiving equipment. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. Keep cool.

Conditions for safe storage, including anyincompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place. Store away from incompatible materials. Protect from direct sunlight. Close container after each use. Store containers away from excessive heat & freezing. Do not store @ temperatures above 120°F.

Incompatible Materials Strong oxidizing agents, Caustics.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines Exposure guidelines / protective equipment are for routine handling and accidental spills

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Xylene 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m^3 (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m^3 (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m^3	-

Appropriate engineering controls

Engineering Controls Provide sufficient general &/or local exhaust ventilation to maintain exposure below recommended exposure limits. Vapors are heavier than air & may spread along floors. Provide fresh air entry during application & curing. Eye wash fountain should be located in immediate work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use approved safety goggles or safety glasses. If necessary, refer toappropriate regulations & standards.

Skin and Body Protection Skin: Wear chemical impervious gloves (eg: Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to appropriate regulations & standards.

Body: Use protection appropriate for task (eg: lab coat, coveralls, Tyvek suit). If necessary, refer to OSHA Technical Manual (Sec. VII: Personal Protective Equipment) orappropriate Standards of Canada. Use foot protection, as described in appropriate regulations & standards.

Respiratory Protection If watering of eyes experienced, headache or dizziness or if used in workplace & air monitoring indicates vapor levels above exposure limits, use NIOSH approved respiratory protection in accordance w/ Federal, State & Local requirements. Consult safety equipment supplier & OSHA Regulation 29 CFR 1910.134 for respirator requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Remove & wash contaminated clothing before reuse. Wash hands before breaks & @ end ofworkday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Viscous paste		
Appearance	Clear viscous	**Odor**	Solvent
Color	Clear	**Odor Threshold**	Not determined

Property	**Note: The information below is not intended for use in preparing product specifications**	**Remarks • Method**
pH	Not applicable	
Melting Point/Freezing Point	Not established	
Boiling Point/Boiling Range	> 87.77 °C / >190 °F	
Flash Point	< 37.77 °C / < 100 °F	CC (closed cup)
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Upper Flammability Limits	~8.0%	
Lower Flammability Limit	~1.0%	
Vapor Pressure	Not available	
Vapor Density	Heavier than air (>1)	
Specific Gravity	~0.75-1.25 (calculated)	
Water Solubility	Insoluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not available	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
VOC Content (%)	37%	
VOC Content	<400 g/L	
Density	~ 1.20 g/cm3 @ 68°F (20 C)	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Incompatible Materials. Heat, sparks & open flame.

Incompatible Materials
Strong oxidizing agents, Caustics.

Hazardous Decomposition Products
Nitrogen oxides (NOx). Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes serious eye irritation. Eye contact may result in tearing, redness & pain.

Skin Contact Causes skin irritation. May be harmful in contact with skin. Repeated skin contact may cause dermatitis.

Inhalation Harmful if inhaled. May cause irritation of respiratory tract.

Ingestion May be fatal if swallowed and enters airways.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Xylene 1330-20-7	= 4300 mg/kg (Rat)	> 1700 mg/kg (Rabbit)	= 5000 ppm (Rat) 4 h = 47635 mg/L (Rat) 4 h
Light aliphatic solvent naphtha 64742-48-9	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization Not known to be human skin or respiratory sensitizers.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylene 1330-20-7		Group 3		

IARC (International Agency for Research on Cancer)
Group 3 IARC components are "not classifiable as human carcinogens"

STOT - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Chronic toxicity Reports have associated permanent brain & nervous system damage w/ prolonged & repeated occupational overexposure to solvents. Symptoms include: loss of memory, loss of intellectual ability & loss of coordination. Overexposure or misuse of Xylene can cause liver, kidney & brain damage as well as cardiac abnormalities & reproductive toxicity & is known to the State of California to cause cancer.

Target organ effects Acute: Eyes & Skin. Chronic: Skin.

Aspiration hazard May be fatal if swallowed and enters airways.

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Xylene 1330-20-7		13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	EC50 = 0.0084 mg/L 24 h	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50
Light aliphatic solvent naphtha 64742-48-9		2200: 96 h Pimephales promelas mg/L LC50		2.6: 96 h Chaetogammarus marinus mg/L LC50

Persistence/Degradability

Not tested for persistence & biodegradability.

Bioaccumulation

Not tested for bio-accumulation potential.

Mobility

Chemical Name	Partition Coefficient
Xylene 1330-20-7	3.15

Other Adverse Effects

Environmental Exposure Controls: Should be maintained so as to prevent release to the environment (atmospheric release, release to waterways & spills)

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA Waste Number

Not applicable

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylene 1330-20-7		Included in waste stream: F039		U239

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Xylene 1330-20-7	Toxic Ignitable

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN1993
Proper Shipping Name	Flammable liquids, n.o.s. (Xylene, Petroleum Distillate)
Hazard Class	3
Packing Group	III

IATA

UN/ID No	UN1993
Proper Shipping Name	Flammable liquids, n.o.s. (Xylene, Petroleum Distillate)
Hazard Class	3
Packing Group	III

IMDG

UN/ID No	UN1993
Proper Shipping Name	Flammable liquids, n.o.s. (Xylene, Petroleum Distillate)
Hazard Class	3
Packing Group	III
Marine Pollutant	This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Xylene	Present	X		Present		Present	X	Present	X	X
Light aliphatic solvent naphtha	Present	X		Present		Present	X	Present	X	X
Non-hazardous Ingredients*	Present	X		Present			X	Present	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylene 1330-20-7	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Xylene - 1330-20-7	1330-20-7	20	1.0

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylene	100 lb			X

US State Regulations

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Xylene 1330-20-7	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	2	3	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	2	3	0	X

Issue Date: 10-Sep-2013
Revision Date: 15-Jun-2015
Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

CANTEX

GHS SAFETY DATA SHEET

Date Revised: **FEB 2018**
Supersedes: **JAN 2015**

CANTEX ALL WEATHER CLR Low VOC Cement for Plastic Pipe

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **CANTEX ALL WEATHER CLR Low VOC Cement for Plastic Pipe**

PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

Medical: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H335: May cause respiratory irritation	P280: Wear protective gloves/protective clothing/eye protection/face protection
H336: May cause drowsiness or dizziness	P337+P313: Get medical advice/attention
H351: Suspected of causing cancer	P403+P233: Store in a well ventilated place. Keep container tightly closed
EUH019: May form explosive peroxides	P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	30 - 50
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	4 - 15
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	8 - 17
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 15

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:
Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

	HMIS	NFPA	
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, medium syrupy liquid		
Odor:	Ketone	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity :	0.934 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied

VOC Content: When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 510 g/l.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous decomposition products: None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.

Incompatible Materials: Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	**Teratogenicity**	**Mutagenicity**	**Embryotoxicity**	**Sensitization to Product**	**Synergistic Products**
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: None Known

Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510 g/l.

Degradability: Not readily biodegradable

Bioaccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Adhesives

Hazard Class: 3

Secondary Risk: None

Identification Number: UN 1133

Packing Group: PG II

Label Required: Class 3 Flammable Liquid

Marine Pollutant: NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Risk Phrases: R11: Highly flammable.
R36/37: Irritating to eyes and respiratory system.

Safety Phrases: S2: Keep out of the reach of children
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.

SECTION 16 - OTHER INFORMATION

Specification Information: All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Department issuing data sheet: Safety Health & Environmental Affairs

Training necessary: Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue: 2/20/2018 / Updated GHS Standard Format

Intended Use of Product: Solvent Cement for PVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

CANTEX

GHS SAFETY DATA SHEET

Date Revised: **FEB 2018**

CANTEX #10 PUR Low VOC Primer for PVC and CPVC Plastic Pipe Supersedes: **JAN 2015**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **CANTEX #10 PUR Low VOC Primer for PVC and CPVC Plastic Pipe**

PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
H351: Suspected of causing cancer	P501: Dispose of contents/container in accordance with local regulation
EUH019: May form explosive peroxides	

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	15 - 25
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	15 - 25
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	10 - 30
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	25 - 40

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon and smoke

	HMIS	NFPA	0-Minimal
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

Personal Protective Equipment (PPE):

Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear or purple, thin liquid		
Odor:	Ethereal	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.842 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Water-thin
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 550 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 550 g/l.
Degradability:	Not available
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 1L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Risk Phrases:
R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

Safety Phrases:
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

SECTION 16 - OTHER INFORMATION

Specification Information:	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
Department issuing data sheet:	Safety Health & Environmental Affairs
Training necessary:	Yes, training in practices and procedures contained in product literature.
Reissue date / reason for reissue:	2/20/2018 / Updated GHS Standard Format
Intended Use of Product:	Primer for PVC and CPVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

CANTEX

GHS SAFETY DATA SHEET

CANTEX #99 CLEAR Low VOC PVC Plastic Pipe Cement

Date Revised: **JAN 2015**
Supersedes: **MAY 2013**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **CANTEX #99 CLEAR Low VOC PVC Plastic Pipe Cement**

PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
H351: Suspected of causing cancer	P501: Dispose of contents/container in accordance with local regulation
EUH019: May form explosive peroxides	

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	5 - 15
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	30 - 45
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 15
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	15 - 35

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

	HMIS	NFPA	
Health	2	2	0-Minimal
Flammability	3	3	1-Slight
Reactivity	0	0	2-Moderate
PPE	B		3-Serious
			4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, regular syrupy liquid		
Odor:	Ketone	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.894 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Regular bodied
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 510 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation:	Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact:	Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact:	Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion:	May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510 g/l.
Degradability:	Not readily biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Adhesives
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1133
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Risk Phrases:
R11: Highly flammable.
R20-Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

Safety Phrases:
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

SECTION 16 - OTHER INFORMATION

Specification Information:	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
Department issuing data sheet:	Safety Health & Environmental Affairs
Training necessary:	Yes, training in practices and procedures contained in product literature.
Reissue date / reason for reissue:	1/2/2015 / Updated GHS Standard Format
Intended Use of Product:	Solvent Cement for PVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

CANTEX

GHS SAFETY DATA SHEET

Date Revised: **FEB 2018**
Supersedes: **JAN 2015**

CANTEX ALL WEATHER CLR Low VOC Cement for Plastic Pipe

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **CANTEX ALL WEATHER CLR Low VOC Cement for Plastic Pipe**

PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

Medical: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H335: May cause respiratory irritation	P280: Wear protective gloves/protective clothing/eye protection/face protection
H336: May cause drowsiness or dizziness	P337+P313: Get medical advice/attention
H351: Suspected of causing cancer	P403+P233: Store in a well ventilated place. Keep container tightly closed
EUH019: May form explosive peroxides	P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	30 - 50
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	4 - 15
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	8 - 17
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 15

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:
Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

	HMIS	NFPA	
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, medium syrupy liquid		
Odor:	Ketone	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity :	0.934 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied

VOC Content: When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 510 g/l.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous decomposition products: None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.

Incompatible Materials: Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	**Teratogenicity**	**Mutagenicity**	**Embryotoxicity**	**Sensitization to Product**	**Synergistic Products**
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: None Known

Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510 g/l.

Degradability: Not readily biodegradable

Bioaccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Adhesives

Hazard Class: 3

Secondary Risk: None

Identification Number: UN 1133

Packing Group: PG II

Label Required: Class 3 Flammable Liquid

Marine Pollutant: NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Risk Phrases: R11: Highly flammable.
R36/37: Irritating to eyes and respiratory system.

Safety Phrases: S2: Keep out of the reach of children
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.

SECTION 16 - OTHER INFORMATION

Specification Information: All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Department issuing data sheet: Safety Health & Environmental Affairs

Training necessary: Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue: 2/20/2018 / Updated GHS Standard Format

Intended Use of Product: Solvent Cement for PVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

PRODUCT: Polyvinyl Chloride Type 1 Pipe/Conduit/Fittings/Accessories **DATE PREPARED:** 3/15

MANUFACTURER:

CANTEX, INC.
2101 Southeast 1st Street
Post Office Box 340
Mineral Wells, Texas 76068

HAZARDOUS INGREDIENTS INFORMATION

HAZARDOUS COMPONENTS	OSHA PEL	ACGIH TLV	%

PVC materials in pipe form are inert and should not constitute any hazard in normal use or handling.

*THIS PRODUCT ___ DOES _X_ DOES NOT CONTAIN TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40CFR372.

HMIS HEALTH	REACTIVITY	FLAMMABILITY

PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT:	N.A.	SPECIFIC GRAVITY (H20=1):	1.42 gms/cc
VAPOR PRESSURE (MM=Hg):	N.A.	MELTING POINT:	N.A.
VAPOR DENSITY (AIR=1);	N.A.	EVAPORATION RATE: (butyl acetate=1)	N.A.

SOLUBILITY IN WATER: Insoluble

APPEARANCE AND ODOR: N.A.

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (method used)
Ingnition Temp. Above 734^{o} F

FLAMMABLE LIMITS
N.A.

EXTINGUISHING MEDIA: Water, foam and dry chemicals

SPECIAL FIRE FIGHTING PROCEDURES: PVC gives off thick smoke and toxic gasses such as carbon monoxide when burning. Firefighters must wear self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustion products are hazardous and toxic in nature. Thick smoke may obscure vision. PVC pipe and conduit will not burn unless supported by other combustible material.

REACTIVITY DATA

STABILITY: STABLE

INCOMPATIBILITY: N.A.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, HYDROGEN CHLORIDE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Under most circumstances, exposure to PVC pipe materials poses no significant risk to health. During fire, toxic fumes, such as carbon monoxide and other gases are given off which are injurious to all sensitive skin areas and the breathing function. Skin irritation and coughing may result.

INHALATION: N.A.

SKIN CONTACT: N.A.

EYE CONTACT: N.A.

INGESTION: N.A.

CHRONIC: N.A.

EMERGENCY FIRST AID PROCEDURES:

EYES: N.A.

SKIN: N.A.

INGESTION: N.A.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N.A.

SUSPECTED CANCER AGENT: IARC: NO NTP: NO OSHA: NO

SPILL OR LEAK PROCEDURES

IF MATERIAL IS SPILLED: Not applicable to PVC in pipe form. In pelletized, machined shavings or off-cut form, sweep up and place in suitable container for disposal.

WASTE DISPOSAL METHOD: LANDFILL PVC is an inert plastic material. No special disposal procedures are necessary other than complying with local, state and federal regulations.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Non-toxic nuisance dust mask may be advised in presence of heavy saw dusting.

VENTILATION: Mechanical (General) in areas of thermal processing.

HAND PROTECTION: Gloves in areas involving molten PVC

EYE PROTECTION: In areas involving molten PVC

OTHER PROTECTION: None required

SPECIAL PRECAUTIONS

California Proposition 65 Statement

No chemicals used to manufacture our products are reportable under this law

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Trade Name: CARLON ELECTRICAL PRODUCTS ALL WEATHER QUICKSET CLEAR CEMENT
Product Numbers: VC9981P, VC9982, VC9983, VC9984, VC9983, VC9985C, VC9983C
Product Use: Cement for PVC Plastic Pipe
Formula: PVC Resin in Solvent Solution
Synonyms: PVC Plastic Pipe Cement
Firm Name & Mailing Address: CARLON ELECTRICAL PRODUCTS c/o OATEY CO. 4700 West 160th Street P.O. Box 35906 Cleveland, Ohio 44135, U.S.A. http://www.oatey.com
Oatey Phone Number: (216) 267-7100 or (800) 321-9532
Emergency Phone Numbers: For Emergency First Aid call 1-303-623-5716 COLLECT. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
Prepared By: Corporate Director – Safety and Environmental Compliance
Preparation Date: August 25, 2005

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:	%wt/wt:	CAS NUMBER:	ACGIH TLV TWA:	OSHA PEL TWA:	OTHER:
Tetrahydrofuran	40 - 55%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
PVC Resin (Non-hazardous)	12 - 24%	9002-86-2	10 mg/m3	15 mg/m3	None
Acetone	10 - 25%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
Cyclohexanone	10 - 20%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None
Amorphous Fumed Silica (Non-hazardous)	1 - 5%	112945-52-5	10 mg/m3	None Established	None

OSHA Hazard Classification: Flammable, irritant, organ effects

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview:
Clear liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

SECTION 4 FIRST AID MEASURES

CALL 1-303-623-5716 COLLECT

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.

Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

SECTION 5 FIRE FIGHTING MEASURES

Flashpoint / Method:	0 - 5 Degrees F. (-18 - -15 Degrees C / PMCC
Flammability:	LEL = 1.8 % Volume, UEL = 11.8 % Volume
Extinguishing Media:	Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.
Special Fire Fighting Procedure:	Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored
Unusual Fire and Explosion Hazards:	Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.
Hazardous Decomposition Products:	Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:	Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

SECTION 7 HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.
Storage:	Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.
Other:	"Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:	Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.
Respiratory Protection:	For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.
Skin Protection:	Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

SECTION 8 (Continued)

Eye Protection: Safety glasses with sideshields or safety goggles.
Other: Eye wash and safety shower should be available.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	151 Degrees F / 66 Degrees C
Melting Point:	Not Applicable
Vapor Pressure:	145 mmHg @ 20 Degrees C
Vapor Density:	(Air = 1) 2.5
Volatile Components:	81-85%
Solubility In Water:	Negligible
pH:	Not Applicable
Specific Gravity:	0.94 +/- 0.01 @ 20 Degrees C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0
Appearance:	Clear Liquid
Odor:	Ether-Like
Will Dissolve In:	Tetrahydrofuran
Material Is:	Liquid

SECTION 10 STABILITY AND REACTIVITY

Stability:	Stable.
Conditions To Avoid:	Avoid heat, sparks, flames and other sources of ignition.
Hazardous Decomposition Products:	Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.
Incompatibility/ Materials To Avoid:	Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.
Hazardous Polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Inhalation:	Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.
Skin:	May cause irritation with redness, itching and pain. Cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.
Eye:	Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.
Ingestion:	Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.
Chronic Toxicity:	Prolonged or repeated overexposure cause dermatitis and damage to the kidney, liver, lungs and central nervous system.
Toxicity Data:	Acetone: Oral rat LD50: 5,800 mg/kg Inhalation rat LC50: 50,100 mg/m3/8 hours
	Cyclohexanone: Oral rat LD50: 1,620 mg/kg Inhalation rat LC50: 8,000 ppm/4 hours Skin rabbit LD50: 1 mL/kg
	Tetrahydrofuran: Oral rat LD50: 1,650 mg/kg Inhalation rat LC50: 21,000 ppm/3 hours

SECTION 11 (Continued)

Sensitization:	None of the components are known to cause sensitization.
Carcinogenicity:	None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as “A3,” Confirmed Animal Carcinogens with Unknown Relevance to Humans.
Mutagenicity:	Cyclohexanone has been positive in bacterial and mammalian assays. Acetone and tetrahydrofuran are generally thought not to be mutagenic.
Reproductive Toxicity:	Cyclohexanone has been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran have been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.
Medical Conditions Aggravated By Exposure:	Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

SECTION 12 ECOLOGICAL INFORMATION

This product is not expected to be toxic to aquatic organisms.
Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.
Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.
Acetone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information:	This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.
VOC Level:	600 g/l per SCAQMD Test Method 316A.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with current local, state and federal regulations.
RCRA Hazardous Waste Number: U002, U057, U213
EPA Hazardous Waste ID Number: D001, F003
EPA Hazard Waste Class: Ignitable Waste.

SECTION 14 TRANSPORT INFORMATION

DOT	Less than 1 Liter (0.3 gal)	Greater than 1 Liter (0.3 gal)
Proper Shipping Name:	Consumer Commodity	Adhesives
Hazard Class/Packing Group:	ORM-D	3, PGII
UN/NA Number:	None	UN1133
Hazard Labels:	None	Flammable Liquid
IMDG		
Proper Shipping Name:	Adhesives	Adhesives
Hazard Class/Packing Group:	3, II	3, II
UN Number:	UN1133	UN1133
Label:	None (Limited Quantities are excepted from labeling)	Class 3 (Flammable Liquid)

2004 North American Emergency Response Guidebook Number: 127 or 128

SECTION 15 REGULATORY INFORMATION

Hazard Category for Section 311/312:	Acute Health, Chronic Health, Flammable
Section 302 Extremely Hazardous Substances (TPQ):	This product does not contain chemicals regulated under SARA Section 302.
Section 313 Toxic Chemicals:	This product contains no chemicals subject to SARA Title III Section 313 Reporting requirements.
CERCLA 103 Reportable Quantity:	Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Tetrahydrofuran (55% maximum) of 1,000 lbs, is 1,818 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
California Proposition 65:	This product contains trace amounts of chemicals known to the State of to cause cancer. Under normal Use conditions, exposure to these chemicals at levels above the State of California “No Significant Risk Level” (NSRL) are unlikely. Oatey strongly encourages the use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 to minimize exposure to these chemicals.
TSCA Inventory:	All of the components of this product are listed on the TSCA inventory.
Canadian WHIMS Classification:	Class B, Division 2; Class D, Division 2, Subdivision B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

SECTION 16

NFPA and HMIS:

NFPA Hazard Signal:	Health: 2	Flammability: 3	Reactivity: 1	Special: None
HMIS Hazard Signal:	Health: 2*	Flammability: 3	Reactivity: 1	PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

MATERIAL SAFETY DATA SHEET 7S323

5E520-5E522

Carlon

600 ROUTE 440

JERSEY CITY, NJ 07304

TELEPHONE 201-434-6778

Number 297A Revision 12/16/92

HEALTH = 1; FLAMMABILITY = 3; REACTIVITY = 0

SECTION I - GENERAL INFORMATION

PRODUCT NAME (NUMBER): PVC/CPVC Primer - Clear
(72050, 72051, 72052 & 72054)

CHEMICAL FAMILY: Mixture.

D.O.T. HAZARD CLASS: Flammable liquid.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	CAS	WT %	OSHA	ACGIH
NUMBER	PEL	TLV		
Acetone	67-64-1	32	750 ppm	750 ppm
Methyl Ethyl Ketone	78-93-3	32	200 ppm	200 ppm
STEL 300 ppm				
Tetrahydrofuran	109-99-9	15-25	200 ppm	200 ppm
STEL 250 ppm				
*Cyclohexanone	108-94-1	15-25	50 ppm	25 ppm
STEL 100 ppm				

*Can be absorbed through the skin.

SECTION III - PHYSICAL DATA
(PUBLISHED OR ESTIMATED VALUES)

BOILING POINT Deg F.	133	SPECIFIC GRAVITY	0.830
(760 mm Hg)		(H2O=1) .@ 77 deg F)	
VAPOR PRESSURE	190	% VOLATILE BY WEIGHT	100
(mm Hg at 20 Deg. C)		EVAPORATION RATE	6-11
VAPOR DENSITY (AIR=1)	2.0	(BUAC = 1)	
SOLUBILITY IN WATER	Appreciable		
pH	Neutral		
APPEARANCE AND ODOR	Purple liquid, pungent odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS
(% By Volume in Air): LEL: 2.6 UEL: 13.0

FLASH POINT Deg F.: 6 (T.C.C.)

EXTINGUISHING MEDIA: Dry chemical or carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: If smoke and fumes cannot be Avoided, wear self-contained breathing apparatus approved by NIOSH.
UNUSUAL FIRE AND EXPLOSION HAZARD: Vapors are heavier than air and may travel along floor. Keep away from ignition sources.

(NA - NOT APPLICABLE; NE - NOT ESTABLISHED; NL - NOT LISTED; UN - UNKNOWN)

SECTION V(A) - HEALTH HAZARD DATA (Symptoms/Effects of Overexposure)
INHALATION: Vapors can cause irritation to nose, throat and Respiratory tract. High vapor concentration may cause Central nervous system depression. Can cause dizziness, Headache and nausea.
INGESTION: Liquid is moderately toxic and may be harmful if Swallowed. May produce central nervous system depression.
SKIN: Liquid is moderately irritating to the skin. Prolonged or repeated contact can cause irritation and dermatitis.
EYES: Vapors may cause irritation and/or eye burns.
LISTED CARCINOGENS: NONE.

SECTION V(B) - HEALTH HAZARD DATA (Emergency and First Aid Procedures)
INHALATION: Remove individual to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
INGESTION: Do not give liquid if victim is unconscious or drowsy. Otherwise immediately give 2 glasses of water. DO NOT induce vomiting. Call a physician. Gastric Lavage may be desirable.
SKIN CONTACT: Wash with soap and water. If irritation occurs get medical attention.
EYE CONTACT: Immediately flush eyes with large amount of water for at least 15 minutes. Get medical attention immediately.

SECTION VI - REACTIVITY DATA
STABILITY: STABLE
CONDITIONS TO AVOID: Heat, sparks, flame and contact with strong oxidizing agents.
INCOMPATIBILITY (Materials to Avoid): Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide and unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
WARNING! Flammable. Eliminate all ignition sources. If enclosed area with poor ventilation, wear appropriate respirator. Add absorbent and scoop into non-leaking container. Remove to outdoors, or evaporate under a hood, or seal for disposal. Clean with water.
WASTE DISPOSAL: Destroy by approved incineration or deposit in approved landfill.

Must be in accordance with Federal, State and Local Laws and Regulations.

SECTION VIII - SPECIAL PROTECTION
RESPIRATORY: Not needed in normal use, however, if threshold limit values are exceeded, use a NIOSH/MSHA approved respirator for organic vapors.
EYEWEAR: Chemical splash goggles in compliance with OSHA regulations are advised. Provide eye bath near work site.
CLOTHING/GLOVES: Wear chemical-resistant gloves if required to minimize contact. Provide wash area near work site.
VENTILATION: Use in a well ventilated area. If ventilation is poor provide sufficient mechanical (general and/or local) exhaust to keep exposure levels below TLVs.

SECTION IX - SPECIAL PRECAUTIONS
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Flammable liquid, keep away from potential ignition sources, in a well ventilated area. Keep containers closed when not in use. Store in a cool dry area. Read all container labeling.
OTHER PRECAUTIONS: CONTAINERS: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

SECTION X - ADDITIONAL INFORMATION
LABELING:
DANGER: Extremely flammable.
Vapor harmful.
Harmful if swallowed.

KEEP OUT OF REACH OF CHILDREN.

----------REGULATORY INFORMATION----------
Toxic Substance Control Act (TSCA) Status:
All ingredients of this product are listed on the TSCA inventory.
SARA TITLE III (Section 313):
Components present in this product at a level which could require reporting under the statute are:
Acetone - Methyl Ethyl Ketone

EMERGENCY TELEPHONE NUMBER
CHEMTREC 1-800-424-9300 DAY OR NIGHT

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for loss or injury arising out of use of this information or the use of any materials designated.

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Trade Name: CARLON ELECTRICAL PRODUCTS STANDARD CLEAR PVC SOLVENT CEMENT
Product Numbers: VC9961P, VC9962, VC9963, VC9964, VC9963C, VC9965C
Product Use: Cement for PVC Plastic Pipe
Formula: PVC Resin in Solvent Solution
Synonyms: PVC Plastic Pipe Cement
Firm Name & Mailing Address: CARLON ELECTRICAL PRODUCTS c/o OATEY CO. 4700 West 160th Street P.O. Box 35906 Cleveland, Ohio 44135, U.S.A. http://www.oatey.com
Oatey Phone Number: (216) 267-7100 or (800) 321-9532
Emergency Phone Numbers: For Emergency First Aid call 1-303-623-5716 COLLECT. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
Prepared By: Corporate Director – Safety and Environmental Compliance
Preparation Date: August 25, 2005

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:	%wt/wt:	CAS NUMBER:	ACGIH TLV TWA:	OSHA PEL TWA:	OTHER:
Tetrahydrofuran	30 - 65%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
Methyl Ethyl Ketone	10 - 30%	78-93-3	200 ppm 300 ppm STEL	200 ppm	None
Acetone	10 - 20%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
PVC Resin (Non-hazardous)	10 - 20%	9002-86-2	10 mg/m3	15 mg/m3	None
Cyclohexanone	7 - 13%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None
Amorphous Fumed Silica (Non-hazardous)	1 - 5%	112945-52-5	10 mg/m3	None Established	None

OSHA Hazard Classification: Flammable, irritant, organ effects

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview:
Clear liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

SECTION 4 FIRST AID MEASURES

CALL 1-303-623-5716 COLLECT

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.

Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

SECTION 5 FIRE FIGHTING MEASURES

Flashpoint / Method:	0 - 5 Degrees F. (-18 - -15 Degrees C / PMCC
Flammability:	LEL = 1.8 % Volume, UEL = 11.8 % Volume
Extinguishing Media:	Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.
Special Fire Fighting Procedure:	Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored
Unusual Fire and Explosion Hazards:	Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.
Hazardous Decomposition Products:	Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:	Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

SECTION 7 HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.
Storage:	Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.
Other:	"Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:	Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.
Respiratory Protection:	For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.
Skin Protection:	Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

SECTION 8 (Continued)

Eye Protection:	Safety glasses with sideshields or safety goggles.
Other:	Eye wash and safety shower should be available.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	151 Degrees F / 66 Degrees C
Melting Point:	Not Applicable
Vapor Pressure:	145 mmHg @ 20 Degrees C
Vapor Density:	(Air = 1) 2.5
Volatile Components:	81-85%
Solubility In Water:	Negligible
pH:	Not Applicable
Specific Gravity:	0.94 +/- 0.01 @ 20 Degrees C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0
Appearance:	Clear Liquid
Odor:	Ether-Like
Will Dissolve In:	Tetrahydrofuran
Material Is:	Liquid

SECTION 10 STABILITY AND REACTIVITY

Stability:	Stable.
Conditions To Avoid:	Avoid heat, sparks, flames and other sources of ignition.
Hazardous Decomposition Products:	Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.
Incompatibility/ Materials To Avoid:	Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.
Hazardous Polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Inhalation:	Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.
Skin:	May cause irritation with redness, itching and pain. Cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.
Eye:	Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.
Ingestion:	Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.
Chronic Toxicity:	Prolonged or repeated overexposure cause dermatitis and damage to the kidney, liver, lungs and central nervous system.
Toxicity Data:	Acetone: Oral rat LD50: 5,800 mg/kg Inhalation rat LC50: 50,100 mg/m3/8 hours
	Cyclohexanone: Oral rat LD50: 1,620 mg/kg Inhalation rat LC50: 8,000 ppm/4 hours Skin rabbit LD50: 1 mL/kg
	Tetrahydrofuran: Oral rat LD50: 1,650 mg/kg Inhalation rat LC50: 21,000 ppm/3 hours
	Methyl Ethyl Ketone: Oral rat LD50: 2,737mg/kg Inhalation rat LC50: 23,500mg/m3/8 hours Skin rabbit LD50: 6,480 mg/kg

SECTION 11 (Continued)

Sensitization:	None of the components are known to cause sensitization.
Carcinogenicity:	None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as “A3,” Confirmed Animal Carcinogens with Unknown Relevance to Humans.
Mutagenicity:	Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.
Reproductive Toxicity:	Cyclohexanone and methyl ethyl ketone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran have been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.
Medical Conditions Aggravated By Exposure:	Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

SECTION 12 ECOLOGICAL INFORMATION

This product is not expected to be toxic to aquatic organisms.
Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.
Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.
Methyl Ethyl Ketone: 96 hour LC50 for fish is greater than 100 mg/L.
Acetone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information:	This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.
VOC Level:	600 g/l per SCAQMD Test Method 316A.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with current local, state and federal regulations.
RCRA Hazardous Waste Number: U002, U057, U159, U213
EPA Hazardous Waste ID Number: D001, D035, F003, F005
EPA Hazard Waste Class: Ignitable Waste. Toxic Waste (Methyl Ethyl Ketone content)

SECTION 14 TRANSPORT INFORMATION

DOT	Less than 1 Liter (0.3 gal)	Greater than 1 Liter (0.3 gal)
Proper Shipping Name:	Consumer Commodity	Adhesives
Hazard Class/Packing Group:	ORM-D	3, PGII
UN/NA Number:	None	UN1133
Hazard Labels:	None	Flammable Liquid
IMDG		
Proper Shipping Name:	Adhesives	Adhesives
Hazard Class/Packing Group:	3, II	3, II
UN Number:	UN1133	UN1133
Label:	None (Limited Quantities are excepted from labeling)	Class 3 (Flammable Liquid)

2004 North American Emergency Response Guidebook Number: 127 or 128

SECTION 15 REGULATORY INFORMATION

Hazard Category for Section 311/312: Acute Health, Chronic Health, Flammable

Section 302 Extremely Hazardous Substances (TPQ): This product does not contain chemicals regulated under SARA Section 302.

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Chemical	CAS #	% by wt.
Methyl Ethyl Ketone	78-93-3	10-30%

CERCLA 103 Reportable Quantity: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Tetrahydrofuran (65% maximum) of 1,000 lbs, is 1,538 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

California Proposition 65: This product contains trace amounts of chemicals known to the State of to cause cancer. Under normal Use conditions, exposure to these chemicals at levels above the State of California “No Significant Risk Level” (NSRL) are unlikely. Oatey strongly encourages the use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 to minimize exposure to these chemicals.

TSCA Inventory: All of the components of this product are listed on the TSCA inventory.

Canadian WHIMS Classification: Class B, Division 2; Class D, Division 2, Subdivision B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

SECTION 16

NFPA and HMIS:

NFPA Hazard Signal:	Health: 2	Flammability: 3	Reactivity: 1	Special: None
HMIS Hazard Signal:	Health: 2*	Flammability: 3	Reactivity: 1	PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

90250

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS, And European Community Standards

PART I *What is the material and what do I need to know in an emergency?*

1. PRODUCT IDENTIFICATION

Grainger 5E525, 5E526, 5E527, 5E529, 5E530, 5E531

TRADE NAME (AS LABELED):	**LOW VOC PVC SOLVENT CEMENTS:**
Regular Clear PVC Cement	Gray PVC Cement
Blue PVC Cement	
CHEMICAL NAME/CLASS:	Polyvinyl Chloride / Solvent Mixture
PRODUCT USE:	Solvent Cement for PVC-Based Material
SUPPLIER/MANUFACTURER'S NAME:	**Cookson Electronics**
U.S. BUSINESS PHONE:	1-800-327-8460; 1-561-844-0241
U.S. ADDRESS:	1661 Old Dixie Highway Riviera Beach, FL 33404
U.S. EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300 (U.S. and Canada) 1-703-527-3887 (International)
DATE OF PREPARATION:	Apr. 10, 2005

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	EINECS #	% w/w	EXPOSURE LIMITS IN AIR					
				ACGIH		OSHA			
				TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	OTHER
Tetrahydrofuran	109-99-9	203-726-8	40-60	50 A3 (confirmed Animal Carcinogen with Unknown Relevance to Humans)	100	200	250 (vacated 1989 PEL)	2000 (based on LEL)	NIOSH REL: TWA = 200 STEL = 250 DFG MAK: 50
Methyl Ethyl Ketone	78-93-3	201-159-0	1-12	200	300	200	300 (vacated 1989 PEL)	3000	NIOSH REL: TWA = 200 STEL = 300 DFG MAK: 200 Carcinogen: EPA-D
Polyvinyl Chloride Resin	9002-86-2	206-625-7	< 25	NE	NE	NE	NE	NE	Carcinogen: IARC-3;
Cyclohexanone	108-94-1	203-631-1	8-18	25, skin, A3 (confirmed Animal Carcinogen with Unknown Relevance to Humans)	NE	50 25 (vacated 1989 PEL)	NE	700	NIOSH REL: TWA = 25, Skin DFG MAK: Danger of Cutaneous Absorption Carcinogen: IARC-3; MAK-B

NE = Not Established. C = Ceiling Limit. See Section 16 for Definitions of Terms Used.

2. COMPOSITION and INFORMATION ON INGREDIENTS (Continued)

CHEMICAL NAME	CAS #	EINECS #	% w/w	EXPOSURE LIMITS IN AIR					
				ACGIH		OSHA			
				TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	OTHER
Acetone	67-64-1	200-662-2	5-20	500 A4 (Not Classifiable as a Human Carcinogen)	750	1000 750	NE 1000	2500	NIOSH REL: TWA = 250DFG MAK: 500 Carcinogen: EPA-D
Silicon Dioxide (exposure limits are for silica-amorphous diatomaceous earth)	112945-52-5	Unlisted	Balance	For CAS # 61790-53-2 (uncalcined) 10 mg/m^3(Inhalable particulate) 3 mg/m^3 (Respirable particulate)	NE	20 mppcf or 80 mg/m^3 / % SiO_2 6 mg/m^3 (vacated 1989 PEL)		3000 mg/m^3	NIOSH REL: 6 mg/m^3 DFG MAK: 4 mg/m^3 (CAS # 61790-53-2) Carcinogen: IARC-3 (CAS # 61790-53-2)

NE = Not Established. C = Ceiling Limit. See Section 16 for Definitions of Terms Used.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This is an extremely flammable liquid with an ether-like odor. This product comes in a variety of colors. Inhalation overexposures to the vapors of this product can cause central-nervous system effects (e.g., dizziness, drowsiness, nausea, and headaches). This product can be mildly to severely irritating to the eyes, skin, and other contaminated tissue. Vapors of this product are heavier than air and may travel to a source of ignition and flashback to a leak or open container. Tetrahydrofuran, a component of this product, is known to form explosive peroxides under certain circumstances. Emergency responders must wear the proper personal protective equipment (and have appropriate fire protection) suitable for the situation to which they are responding.

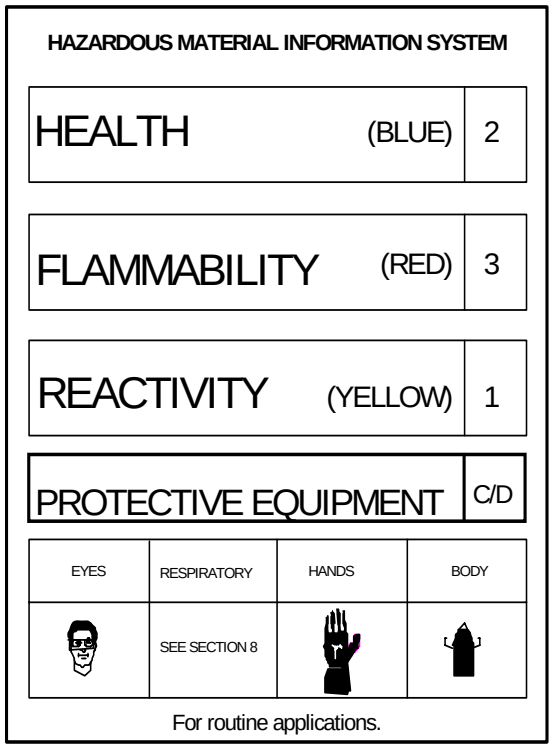
SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of occupational overexposure are inhalation and contact with skin and eyes. The symptoms of overexposure to this product, via route of exposure, are as follows:

INHALATION: Inhalation of vapors, mists, or sprays of this product can be irritating to the nose, throat, mucous membranes, and other tissues of the respiratory system. Symptoms of overexposure can include coughing, sneezing, and shortness of breath. Additionally, the components of this product are central nervous system depressants. Symptoms of over-exposure can include drowsiness, dizziness, fatigue, headache, nausea, and general anesthetic effects. Inhalation of high concentrations of this product (as may occur in a poorly-ventilated area) may be fatal. Based on clinical studies involving test animals, Cyclohexanone and Tetrahydrofuran, components of this product, may cause liver and kidney damage after long-term inhalation overexposures.

This product must be used with adequate ventilation. Mechanical exhaust may be needed. Ensure exposure to vapors is minimized by use of appropriate engineering controls, work practices, and personal protective equipment, as described in the remainder of this document.

CONTACT WITH SKIN or EYES: Contact with this product can be irritating to contaminated skin and eyes. Vapors of this product can redden and irritate the eyes. If the eyes are contaminated with splashes, sprays or mists of this product, reddening, tearing, and corneal opacity can occur. The liquid can be mildly to severely irritating to contaminated skin (depending on duration of exposure). Prolonged or repeated skin over-exposures can lead to dermatitis.

SKIN ABSORPTION: Skin absorption is a potential route of overexposure for Cyclohexanone (a component of this product). Symptoms of such exposure can include those described under “Inhalation” and “Contact With Skin and Eyes”.



See Section 16 for Definition of Ratings

3. HAZARD IDENTIFICATION (Continued)

INGESTION: Ingestion is not anticipated to be a significant route of occupational overexposure for this product. If ingestion occurs, refer to Section 4 (First-Aid Measures) and get medical help immediately. If ingestion of this product does occur, symptoms of such over-exposure can include nausea, vomiting, and other symptoms described for "Inhalation". Ingestion can also lead to liver and kidney damage. Ingestion of this product may be fatal.

INJECTION: Injection is not anticipated to be a significant route of over-exposure for this product. If injection does occur (i.e. through a puncture by an object contaminated with the product), local irritation and swelling can occur. Additional symptoms may include those described for "Inhalation".

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in **Lay Terms**.

ACUTE: Over-exposures to this product can be irritating to the eyes, skin, and mucous membranes, and can also cause central-nervous system effects (dizziness, drowsiness, nausea and headaches). Ingestion of this product, or inhalation of high concentrations of this product's vapors, may be fatal.

CHRONIC: Prolonged or repeated skin exposures can lead to dermatitis (dryness, reddening and irritation of the skin). Tetrahydrofuran, a component of this product, may cause liver and kidney damage after long-term inhalation overexposures. There is limited evidence from animal studies that Methyl Ethyl Ketone, a component of this product, is a reproductive toxin. Refer to Section 11 (Toxicological Information) for additional information. A report from the National Toxicology Program (NTP) has suggested that exposure of mice and rats to Tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetimes caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. No evidence of tumors was seen in female rats or male mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. The NTP, IARC, or OSHA does not list THF as a carcinogen. One THF vendor (DuPont) has recommended a reduction in the "acceptable exposure limit" from 200 ppm to 25 ppm, 8 and 12 hour time weighted average and a STEL of 75 ppm.

TARGET ORGANS: Acute: Skin, eyes, respiratory system, central nervous system. **Chronic:** Liver, kidneys.

PART II *What should I do if a hazardous situation occurs?*

4. FIRST-AID MEASURES

SKIN EXPOSURE: If this product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. The contaminated individual must seek medical attention if any adverse effect occurs.

EYE EXPOSURE: If this product's liquid or vapors enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. The contaminated individual must seek immediate medical attention.

INHALATION: If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. The contaminated individual should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow.

The contaminated individual must be taken for medical attention, especially if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to health professional with victim.

5. FIRE-FIGHTING MEASURES

The following information is variable, depending on the blend. The following information is for Tetrahydrofuran, the main solvent component of this product.

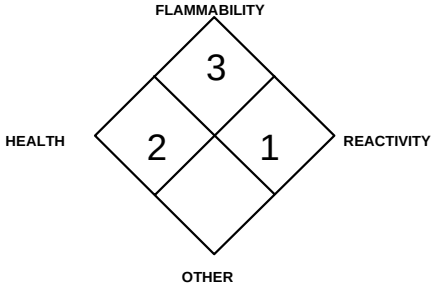
FLASH POINT: -17°C (4.1°F)
AUTOIGNITION TEMPERATURE: 321°C (610°F)
FLAMMABLE LIMITS (in air by volume): Lower (LEL): 1.8%
Upper (UEL): 11.8%

The following information is for the product.

FIRE EXTINGUISHING MATERIALS:

Water Spray: YES (for cooling only)
Foam: YES
Halon: YES
Carbon Dioxide: YES
Dry Chemical: YES
Other: Any "B" C

NFPA RATING



See Section 16 for Definition of Ratings

lass.

5. FIRE-FIGHTING MEASURES (Continued)

UNUSUAL FIRE AND EXPLOSION HAZARDS: This is a Class I-B Flammable Liquid. When involved in a fire, this material may ignite and produce irritating vapors and toxic gases (e.g., carbon monoxide, carbon dioxide). This material will readily ignite at room temperature. The vapors are heavier than air and may travel to a source of ignition, and flash back to a leak or open container. Tetrahydrofuran can form potentially explosive peroxides; closed containers contaminated with peroxides can rupture violently in the heat of a fire.

Explosion Sensitivity to Mechanical Impact: Not sensitive.
Explosion Sensitivity to Static Discharge: The vapors of this product can be ignited by static electrical energy.

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. If it is safe to do so, allow small fires involving this product to burn-out, while protecting exposures. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. If necessary, rinse contaminated equipment thoroughly before returning such equipment to service.

6. ACCIDENTAL RELEASE MEASURES

RELEASE RESPONSE: In case of a spill, clear the affected area and protect people. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used.

Small releases (e.g., 1-pint) must be cleaned-up by personnel wearing gloves, goggles, and appropriate eye protection. Face shields must be worn if splashes or sprays of this product may be generated. In the event of a non-incidental release (e.g., five, 1-gallon containers leaking simultaneously in a poorly-ventilated area), the minimum Personal Protective Equipment should be **Level B: triple-gloves (rubber gloves and nitrile gloves, over latex gloves), chemically resistant suit and boots, hard-hat, and Self-Contained Breathing Apparatus.** Level B should always be used during responses in which the oxygen level is below 19.5% or unknown.

Eliminate all sources of ignition before spill clean-up begins. Use non-sparking tools. Absorb spilled liquid with activated carbon, polypads or other suitable absorbent materials. Monitor the area for combustible vapors and the level of oxygen. Monitoring must indicate less than 10 % of the LEL (see Section 5, Fire-Fighting Measures) and greater than 19.5% Oxygen is in the atmosphere before personnel are permitted in the area without Level B Protection. Place all spill residue in an appropriate container and seal. Dispose of in accordance with U.S. Federal, State, or local procedures, the applicable standards of Canada and its Provinces, or the appropriate requirements of European Community member States (see Section 13, Disposal Considerations).

PART III *How can I prevent hazardous situations from occurring?*

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors or mists generated by this product. Remove contaminated clothing immediately.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Containers of this product must be properly labeled. If this mixture is used in other types of containers, only use portable containers approved for flammable liquids. Post “NO SMOKING” signs, where appropriate in storage and use areas. Use non-sparking tools. Bond and ground during transfer of material. Store containers of the product in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers, or in a diked area, as appropriate. Store containers away from incompatible chemicals. Keep container tightly closed when not in use. Storage areas should be made of fire-resistant materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Refer to NFPA 30, Flammable and Combustible Liquids Code for additional information on storage. Empty containers may contain residual flammable liquid or vapors. Therefore, empty containers should be handled with care. Do not expose ”empty” containers to welding touches, or any other source of ignition.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Mechanical exhaust may be needed. Emergency eye-wash/safety showers: where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye-wash fountain/safety shower within the work area for emergency use.

RESPIRATORY PROTECTION: Respiratory protection is not generally needed when using this product. Maintain airborne contaminant concentrations below guidelines listed in Section 2 (Composition, Information on Ingredients). If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134 or applicable State regulations. Use

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

supplied air respiration protection if oxygen levels are below 19.5% or are unknown. Respiratory protection guidelines for Tetrahydrofuran (a component of this product) are provided on the following page.

NIOSH/OSHA RECOMMENDATIONS FOR TETRAHYDROFURAN CONCENTRATIONS IN AIR:

UP TO 2000 ppm: Supplied Air Respirator (SAR) operated in a continuous-flow mode, full-facepiece chemical cartridge respirator with organic vapor cartridge(s), gas mask with organic vapor canister, powered air-purifying respirator with organic vapor cartridge(s), full-facepiece Self-Contained Breathing Apparatus (SCBA), or full-facepiece SAR.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS: Positive pressure, full-facepiece SCBA or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA.

ESCAPE: Gas mask with organic vapor canister or escape-type SCBA.

NOTE: The IDLH concentration for Tetrahydrofuran is 2000 ppm. This value is based on the lower explosive limit (LEL). Respiratory protection equipment may not be adequate for fire situations.

EYE PROTECTION: Splash goggles or safety glasses. Face shield should be worn when working in situations in which splashes or sprays can be generated.

HAND PROTECTION: Wear gloves for routine industrial use to protect hands from contact. For long exposures, or unusual contact, such as spill cleanup, chemical resistant gloves may be required. See section 6.

BODY PROTECTION: Use body protection appropriate for task (e.g., Apron or Tyvek suit).

9. PHYSICAL and CHEMICAL PROPERTIES

For Tetrahydrofuran (the main solvent component of this product):

RELATIVE VAPOR DENSITY (air = 1): 2.5
EVAPORATION RATE (nBuAc = 1): 8-14.5
SPECIFIC GRAVITY (water = 1): Approximately 0.91
FREEZING/MELTING POINT: -1.8.5°C (-16°F)
SOLUBILITY IN WATER @ 25°C: 30%
BOILING POINT: 66°C (151°F)
VAPOR PRESSURE, mm Hg @ 20°C: 129
pH: Not established.
ODOR THRESHOLD: 2.48–3.47 ppm
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): 0.46

For this product:

ODOR THRESHOLD: Not applicable.
FORM: Liquid.
COLOR: Variable color.
ODOR: Ethereal.
VISCOSITY: Not available.
FLASH POINT: -17°C (4.1°F) (Tetrahydrofuran)

HOW TO DETECT THIS SUBSTANCE (warning properties): The color and odor of the product may be distinctive properties of this product.

10. STABILITY and REACTIVITY

STABILITY: Stable.

Note: Tetrahydrofuran, a component of this product, can form potentially explosive peroxide compounds when exposed to light or air. Though this product contains inhibitors to prevent peroxide formation, care should be used when storing this product, or handling old containers of this material.

DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, silicon and chloride compounds.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product will not be compatible with strong oxidizers, lithium aluminum hydride, and alkaline earth hydroxides.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure or contact to extreme temperatures, sources of ignition, incompatible chemicals.

PART IV *Is there any other useful information about this material?*

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The specific toxicology data available for components greater than 1% in concentration are as follows.

CYCLOHEXANONE:
Eye effects-Human 75 ppm
Skin-Rabbit, adult 500 mg open Mild irritation effects

11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA (continued):

CYCLOHEXANONE (continued):
Oral-Rat LD_{50}: 1535 mg/kg
Oral-Mouse LD_{50}: 1400 mg/kg
Subcutaneous-Rat LD50: 2170 mg/kg
Intraperitoneal-Mouse LD_{50}: 1350 mg/kg
Subcutaneous-Mouse LDLo: 1300 mg/kg
Intravenous-Dog, adult LDLo 630 mg/kg Oral-Rabbit, adult LDLo: 1600 mg/kg
Skin-Rabbit, adult LD50: 948 mg/kg
TCLo - Inhalation - rat: 105 mg/m3/4 hours: female 1-20 day(s) after conception: Reproductive - Fertility - pre-implantation mortality
TDLo - Oral - mouse: 11 gm/kg: female 8-12 day(s) after conception: Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)
Mutation in microorganisms: Bacteria - Salmonella typhimurium: 20 uL/
Mutation in microorganisms - Bacteria - Bacillus subtilis 200 uL/L
Cytogenetic analysis: Human Leukocyte: 100 umol/L
Cytogenetic analysis: Human Lymphocyte: 5 ug/L
Sister chromatid exchange: Rodent - hamster Ovary: 7500 uL/L
Mutation in mammalian somatic: Rodent - hamster Ovary: 7500 uL/L

METHYL ETHYL KETONE:
Eye effects-Human 350 ppm
Skin-Rabbit, adult 500 mg/24 hours; Moderate irritation effects
Skin-Rabbit, adult 402 mg/24 hours; Mild irritation effects
Skin-Rabbit, adult 13,780 mg/24H open Mild irritation effects
Eye effects-Rabbit, adult 80 mg
Intraperitoneal-Mouse LD_{50}: 616 mg/kg
Skin-Rabbit, adult LD_{50}: 6450 mg/kg

METHYL ETHYL KETONE (continued):
Sex Chromosome Loss and Nondisjunction - Saccharomyces cerevisiae; 33,800 ppm
Inhalation-Rat TCLo: 1000 ppm/(6-15D preg):Teratogenic effects
Inhalation-Human TCLo: 100 ppm/ 5 minutes: Irritant effects
Oral-Rat LD_{50}: 2737 mg/kg
Inhalation-Rat LC_{50}: 23,500 mg/m3/8 hours;
Intraperitoneal-Rat LD50: 607 mg/kg
Oral-Mouse LD_{50}: 4050 mg/kg
Inhalation-Mouse LC_{50}: 40 g/m3/2 hours
Intraperitoneal-Guinea Pig, adult LDLo: 2 g/kg
Inhalation-Unspecified effects LC_{50}: 38 g/m3
Inhalation-Rat TCLo: 5000 ppm/6H/90 days - Intermittent
TDLo - Subcutaneous - cat: 55500 mg/kg/37 weeks - Intermittent: Reproductive - Tumorigenic effects - other reproductive system tumors
TCLo - Inhalation - rat: 3000 ppm/7 hours: female 6-15 day(s) after conception: Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue) , urogenital system , homeostasis
TCLo - Inhalation - rat: 1000 ppm/7 hours: female 6-15 day(s) after conception: Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus) Reproductive - Specific Developmental Abnormalities - musculoskeletal system
TCLo - Inhalation - mouse: 3000 ppm/7H: female 6-15 day(s) after conception: Reproductive - Effects on Embryo or Fetus - fetotoxicity

POLYVINYL CHLORIDE RESIN:
Oral-Rat TDLo: 210 g/kg/30 weeks - Continuous: Equivocal tumorigenic agent
Implant-Rat TDLo: 7 5 mg/kg: Equivocal tumorigenic agent

SILICON DIOXIDE:
Unscheduled DNA Synthesis-Rat-Intratracheal 120 mg/kg
Body Fluid Assay-Rat: lung 120 mg/kg
Inhalation-Rat TCLo: 50 mg/m3/6 hours/2 years - Intermittent:
Oral-Rat LD_{50}: 3160 mg/kg
Intraperitoneal-Rat LDLo: 50 mg/kg
Intravenous-Rat LD_{50} :15 mg/kg
Intratracheal-Rat LDLo: 10 mg/kg
Intraperitoneal-Guinea Pig, adult LDLo: 120 mg/kg

TETRAHYDROFURAN:
Mutation in Microorganisms-Escherichia coli 1 □mol/L
Inhalation-Human TCLo: 25,000 ppm: Central nervous system effects
Oral-Rat LD_{50}: 1650 mg/kg.
Inhalation-Rat LC_{50}: 21,000 ppm/3H
Intraperitoneal-Rat LD_{50}: 2900 mg/kg
Inhalation-Mouse LCLo: 24,000 mg/m3/2 hours
Intraperitoneal-Mouse LD_{50}: 1900 mg/kg
Intraperitoneal-Guinea Pig, adult LDLo: 500 mg/kg
Inhalation-Rat TCLo: 5000 ppm/6 hours/91 days - Intermittent
TCLo - Inhalation - rat: 5000 ppm/6H: female 6-19 day(s) after conception: Reproductive - Effects on Embryo or Fetus - fetotoxicity
TCLo - Inhalation - mouse: 1800 ppm/6H: female 6-17 day(s) after conception: Reproductive - Fertility - post-implantation mortality
Mutation in microorganisms: Bacteria - Escherichia coli: 1 umol/L

SUSPECTED CANCER AGENT: Components of this products are listed as follows:

CYCLOHEXANONE:
IARC-3: Not Classifiable as a Human Carcinogen.
MAK-B: Justifiably suspected of Having Carcinogenic Potential.

METHYL ETHYL KETONE:
EPA-D: Not Classifiable as to Human Carcinogenicity.

POLYVINYL CHLORIDE RESIN:
IARC-3: Not Classifiable as a Human Carcinogen.

SILICON DIOXIDE:
IARC-3: Not Classifiable as a Human Carcinogen.

This product's components are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, and CAL/OSHA and therefore are neither considered to be nor suspected to be cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product is expected to mildly to severely irritate the skin and eyes.

SENSITIZATION TO THE PRODUCT: No component of this product is known to be a sensitizer with prolonged or repeated use.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: This product is not reported to produce mutagenic effects in humans. Human mutation data are available for Cyclohexanone (a component of this product); these data were obtained on specific human tissues exposed to relatively high doses. Animal mutation data are available for Methyl Ethyl Ketone, Silicon Dioxide, and Tetrahydrofuran (components of this product); these data were obtained during clinical studies on specific animal tissues or micro-organisms exposed to high doses of these compounds.

Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.

Teratogenicity: This product is not reported to cause teratogenic effects in humans. Three animal studies involving Methyl Ethyl Ketone (a component of this product) have shown fetotoxicity (skeletal anomalies) at doses which did not produce significant maternal toxicity.

11. TOXICOLOGICAL INFORMATION (Continued)

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans. Reproductive toxicity data are available for Methyl Ethyl Ketone and Tetrahydrofuran (a component of this product); these data were obtained from clinical studies on test animals exposed to relatively high doses.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

ACGIH BIOLOGICAL EXPOSURE INDICES: Currently, there are ACGIH Biological Exposure Indices (BEIs) associated with components of this product, as follows:

CHEMICAL DETERMINANT	SAMPLING TIME	BEI
ACETONE • Acetone in urine	• End of shift	• 100 mg/L
METHYL ETHYL KETONE (MEK) • MEK in urine	• End of shift	• 2 mg/L
TETRAHYDROFURAN (Intended) • Tetrahydrofuran in urine	• End of shift	• 8 mg/L

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Preexisting respiratory problems, dermatitis, and other skin disorders, as well as conditions involving the "Target Organs" (see Section 3, Hazard Identification) can be aggravated by exposure to this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure. If necessary, review for brain and central nervous system effects and conduct pulmonary function test. Other tests for lung, kidney, and liver effects may also prove useful.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: The components of this product will biodegrade into other organic compounds. Environmental data are available for components of this product, as follows:

CYCLOHEXANONE: K_{OC} - 0.81. Water Solubility 23,000 mg/L. Cyclohexanone is not rapidly volatilized from water, except for fast moving streams or very shallow ponds. Significant soil leaching occurs, contributing to ground water contamination. Biodegradation and photolysis occur in water. Rapid atmospheric degradation occurs via photolysis, with a half-life of about 1 to 5 days.

METHYL ETHYL KETONE: Log Kow = 0.29. Water Solubility = 239,000 mg/L. Methyl Ethyl Ketone is rapidly volatilized from water and undergoes slow biodegradation. It undergoes moderate atmospheric photodegradation.

TETRAHYDROFURAN: Water Solubility = 30% (25°C). Tetrahydrofuran is significantly biodegraded in standard tests. This compound is not expected to bioconcentrate in fish significantly.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: This product can be harmful or fatal to contaminated plant or animal life, especially if released in large quantities into the environment. Refer to Section 11 (Toxicological Information) for information regarding the effect of this product's components on test animals.

EFFECT OF CHEMICAL ON AQUATIC LIFE: This product can be harmful or fatal to contaminated aquatic plant or animal life, especially if released in large quantity in a body of water. The following aquatic toxicity data are available for the components of this product:

CYCLOHEXANONE:
LC_{50} (*Pimephales promelas* fathead minnow) 527 mg/L 96 hours
EC_0 (bacteria Pseudomonas putida) 16 hours = 180 mg/L)
EC_0 (algae *Microcystis aeruginosa*) 8 days = 52 mg/L
EC_0 (green algae *Scenedesmus quadricauda*) 7 days = 370 mg/L
EC_0 (protozoa *Entosiphon sulcatum*) 72 hours = 545 mg/L
EC_0 (protozoa *Uronema parduczi* Chatton-Lwoff) = 280 mg/L
EC_0 (bacteria *Pseudomonas fluorescens*) 16 hours = 180 mg/L (pH = 7
EC_0 (Chilomonas paramecium Ehrenberg) 48 hours = 573 mg/L
EC_0 (*Daphnia magna* Straus) 24 hours = 526 mg/L
EC_{50} (*Daphnia magna* Straus) 24 hours = 820 mg/L
EC_{100} (*Daphnia magna* Straus) 24 hours = 1,240 mg/L
EC_0 (*Daphnia magna*) 24 hours = 540 mg/L
EC_{50} (*Daphnia magna*) 24 hours = 800 mg/L
EC_{100} (*Daphnia magna*) 24 hours = 1,540 mg/L
LC_{50} (fathead minnow) 96 hours = 526; 618; 630 mg/L
LC_{50} (*Leuciscus idus*) 24 hours = 538 mg/L
LC_{50} (*Leuciscus idus*) 96 hours = 536; 539; 752 mg/L

METHYL ETHYL KETONE:
EC_0 (*Scenedesmus quadricauda*, green algae) = 4300 mg/L/ 8 days
EC_0 (*Entosiphon sulcatum*, protozoa) = 190 mg/L/ 72 hours
EC_0 (*Uronema parduczi* Chatton-Lwoff, protozoa) = 2830 mg/L
EC_0 (*Pseudomonas putida*, bacteria) = 1150 mg/L/ 16 hours
LC_{50} (*Pimephales promelas*, fathead minnow) = 3200 mg/L/96 hour
LD_0 (*Pseudomonas*, bacteria) = 2,500 mg/L
LD_0 (*Scenedesmus*, algae) = 12,500 mg/L
LD_0 (*Colpoda*, protozoa) = 5,000 mg/L
LC_{50} (mosquito fish) = 5,600 mg/L/ 24 96 hours
LC_{50} (bluegill) = 5,640 1,690 mg/L/ 24 96 hours
LC_{50} (goldfish) = 5,000 mg/L/ 24 hours

TETRAHYDROFURAN:
Growth Inhibition (*Microcystis*, blue algea) = 225 mg/L
Toxicity Threshold (Cell Multiplication Inhibit System test):
(*Uronema parduczi* Chatton-Lwoff, protozoa) = 858 mg/L
(*Pseudomonas putida*, bacteria) = 580 mg/L
(*Microcytis aeruginosa*, algea) = 225 mg/L
LC_{50} (silver/golden orfe) = 2820–2930 mg/L
LC_{50} (fathead minnow) = 2160 mg/L/ 96 hours
LC_{50} (carp) = 4400 mg/L/ 48 hours
LC_{50} (goldfish) = 2400 mg/L/ 48 hours

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada and its Provinces, as well as those applicable to the EC Member States. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

U.S. EPA WASTE NUMBER: D001 (Characteristic/Ignitability)

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: FLAMMABLE LIQUID, NOS (acetone, tetrahydrofuran, methyl ethyl ketone, cyclohexanone)
HAZARD CLASS NUMBER and DESCRIPTION: 3 (Flammable Liquid)
UN IDENTIFICATION NUMBER: UN 1993
PACKING GROUP: II

DOT LABEL(S) REQUIRED: Flammable Liquid

NOTE: Shipments of containers holding 1-liter or less in volume qualify for a “Limited Quantity” exception. Refer to 49 CFR 173.150 for additional information.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER, 1996: 128

MARINE POLLUTANT: No component of this product is designated as a Marine Pollutant by the DOT (per 49 CFR 172.101, Appendix B).

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

IMO DESIGNATION: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS BY THE INTERNATIONAL MARITIME ORGANIZATION

PROPER SHIPPING NAME: FLAMMABLE LIQUID, NOS (acetone, tetrahydrofuran, methyl ethyl ketone, cyclohexanone)
HAZARD CLASS NUMBER and DESCRIPTION: 3.2 (Flammable Liquid; Intermediate Flash Point)
UN IDENTIFICATION NUMBER: UN 1993
PACKING GROUP: II
LABEL(S) REQUIRED: Flammable Liquid
IMDG CODE: 3230
MARINE POLLUTANT: This product is not designated by the IMO to be a Marine Pollutant.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This material is not considered by the United Nations Economic Commission for Europe to be dangerous goods. Additional information is as follows:

Substance Identification No.: 1993
Name of Substance: FLAMMABLE LIQUID, NOS (acetone, tetrahydrofuran, methyl ethyl ketone, cyclohexanone)
Hazard Identification No. (Description): 33
Label: Flammable Liquid
Class and Item Number: 3, 5°, (c)

15. REGULATORY INFORMATION

ADDITIONAL UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, and are listed as follows:

CHEMICAL NAME	SARA 302 (40 CFR 355, Appendix A)	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)
Acetone	No	Yes	No
Cyclohexanone	No	Yes	Yes
Methyl Ethyl Ketone	No	Yes	Yes
Tetrahydrofuran	No	Yes	No

U.S. SARA THRESHOLD PLANNING QUANTITY: Not applicable.
U.S. CERCLA REPORTABLE QUANTITY (RQ): Cyclohexanone = 5000 lb.; Methyl Ethyl Ketone: 5000 lb.; Tetrahydrofuran = 1000 lb. ; Acetone = 5000 lb

15. REGULATORY INFORMATION (Continued)

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.

OTHER U.S. FEDERAL REGULATIONS: Not applicable.

U.S. STATE REGULATORY INFORMATION: Components of this product are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

California - Permissible Exposure Limits for Chemical Contaminants: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Florida - Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Illinois - Toxic Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Kansas - Section 302/313 List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Massachusetts - Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Michigan - Critical Materials Register: No.

Minnesota - List of Hazardous Substances: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Missouri - Employer Information/Toxic Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

New Jersey - Right to Know Hazardous Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

North Dakota - List of Hazardous Chemicals, Reportable Quantities: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Pennsylvania - Hazardous Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Rhode Island - Hazardous Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Texas - Hazardous Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

West Virginia - Hazardous Substance List: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

Wisconsin - Toxic and Hazardous Substances: Cyclohexanone, Methyl Ethyl Ketone, Tetrahydrofuran**.**

CALIFORNIA, SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): This product may contain trace constituents, such as vinyl chloride, present in one of the product's components. Under common usage, exposures to these trace constituents at levels exceeding the "no significant risk level" (NSRL) would not occur. Users are expected to follow normal PPE and ventilation guidelines such as those in section 8 and other portions of this MSDS.

VOC Information: This product emits volatile organic compounds (VOC's) during use and cure. Users should determine if local regulations regarding use of VOC containing products exist in their area and if this product complies.

ANSI STANDARD LABELING (Z129.1): **DANGER!** EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY BE HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE SKIN AND EYE IRRITATION. ASPIRATION HAZARD - CAN CAUSE LIFE-THREATENING LUNG DAMAGE IF SWALLOWED. MAY CAUSE REPRODUCTIVE EFFECTS, BASED ON ANIMAL TESTS. Keep away from heat, sparks, and flame. Avoid breathing vapor or mists. Avoid contact with skin or clothing. Use only with adequate ventilation. Keep container closed. Wash thoroughly after handling. The recommended storage temperature is 21-32 °C (70-90 °F). Recommended maximum shelf-life for unopened containers is 2 years. **FIRST AID:** In case of contact, immediately flush skin or eyes for at least 15 minutes. If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **IN CASE OF FIRE:** Use fog, foam, dry chemical or CO_2. Liquid will float and may re-ignite on the surface of water. **IN CASE OF SPILL**: Absorb spill with inert material (e.g. activated carbon) then place in suitable container. Refer to Material Safety Data Sheet for additional information on this product.

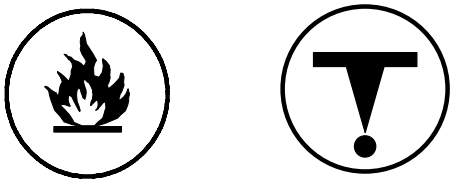
ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are on the DSL Inventory.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LIST: The components of this product are not on the CEPA Priorities Substances List.

CANADIAN WHMIS SYMBOLS: **Class B2**: Flammable Liquid
Class D2A/B: Materials Causing Other Toxic Effects



EUROPEAN COMMUNITY INFORMATION:

EUROPEAN COMMUNITY INFORMATION FOR PRODUCT:

EC LABELING AND CLASSIFICATION: Based on the information on the product's components and an assessment of the physical and health hazards associated with the material, the following assignments have been made (per council directive 67/548/EEC)

EC CLASSIFICATION: Highly flammable. Irritant. [F;Xi]

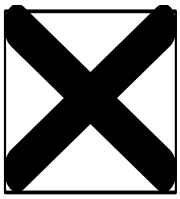
EC RISK PHRASES: Highly flammable. May form explosive peroxides. Irritating to eyes and respiratory system. [R:11-19-36/37]

15. REGULATORY INFORMATION (Continued)

EC LABELING AND CLASSIFICATION (CONTINUED):

EC SAFETY PHRASES: Keep out of reach of children.* Keep away from sources of ignition - No smoking. Do not empty into drains. Do not breathe vapors. Avoid contact with the eyes. Take precautionary measures against static discharges. [S:(2-)*16-23-25-29-33] *This safety phrase can be omitted from the label when the substance or preparation is sold for industrial use only.

EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOLS:



EUROPEAN COMMUNITY INFORMATION FOR CONSTITUENTS: The following information is available for primary constituents in the components of this product.

ACETONE:

EC CLASSIFICATION: Highly flammable. [F]

EC RISK PHRASES: Highly flammable. [R: 11].

EC SAFETY PHRASES: Keep out of reach of children.* Keep container in a well-ventilated place. Keep away from sources of ignition. No smoking. Do not breathe vapors. [S: (2-)*9-16-23-33].

EC COMMENTS: **This safety phrase can be omitted from the label when the substance or preparation is sold for industrial use only.*

CYCLOHEXANONE:

EC CLASSIFICATION: Flammable. Harmful. [F; Xn]

EC RISK PHRASES: Flammable. Harmful by inhalation. [R;10-20].

EC SAFETY PHRASES: Keep out of reach of children.* Avoid contact with the eyes. [S:(2-)* 25]. **This safety phrase can be omitted from the label when the substance or preparation is sold for industrial use only.*

EC COMMENTS: CONCENTRATION GREATER THAN OR EQUAL TO 25%: Harmful. Harmful by inhalation. [Xn; R20]. This product contains less than this concentration; therefore, this risk has been omitted.

METHYL ETHYL KETONE:

EC CLASSIFICATION: Highly flammable. Irritant. [F; Xi]

EC RISK PHRASES: Highly flammable. Irritating to the eyes and respiratory system. [R: 11-36/37].

EC SAFETY PHRASES: Keep out of reach of children.* Keep container in a well-ventilated place. Keep away from sources of ignition. No smoking. Avoid contact with the eyes. Take precautionary measures against static discharges. [S: (2-)*9-16-25-33].

EC COMMENTS: **This safety phrase can be omitted from the label when the substance or preparation is sold for industrial use only.*

POLYVINYL CHLORIDE: An official classification for this substance has not been published in Commission Directives 93/72/EEC, 94/69/EC, and 96/54/EC.

SILICON DIOXIDE: An official classification for this substance has not been published in Commission Directives 93/72/EEC, 94/69/EC, and 96/54/EC.

TETRAHYDROFURAN:

EC CLASSIFICATION: Highly flammable. Irritant. [F;Xi]

EC RISK PHRASES: Highly flammable. May form explosive peroxides. Irritating to eyes and respiratory system. [R:11-19-36/37]

EC SAFETY PHRASES: Keep out of reach of children.* Keep away from sources of ignition - No smoking. Do not empty into drains. Take precautionary measures against static discharges. [S:(2-)*16-29-33] *This safety phrase can be omitted from the label when the substance or preparation is sold for industrial use only.

EC COMMENTS :

CONCENTRATIONS GREATER THAN OR EQUAL TO 25 PERCENT: Irritant. Irritating to eyes and respiratory system. [Xi; R36/37]

16. OTHER INFORMATION

PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc.
9163 Chesapeake Drive, San Diego, CA 92123-1002
619/565-0302

EDITED/UPDATED BY: Michael Cudahy, Technical Manager, Cookson Electronics

DATE OF PRINTING: November 4, 2005

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

CAS #: This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

EXPOSURE LIMITS IN AIR:

ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.

TLV - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average **(TWA)**, the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level **(C)**. Skin absorption effects must also be considered.

OSHA - U.S. Occupational Safety and Health Administration.

PEL - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.

IDLH - Immediately Dangerous to Life and Health **-** This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. **O**ccupational **S**afety and **H**ealth **A**dministration (**OSHA**). NIOSH issues exposure guidelines called **R**ecommended **E**xposure **L**evels (**REL**s). When no exposure guidelines are established, an entry of **NE** is made for reference.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; onetime overexposure can result in permanent injury and may be fatal); **4** (extreme acute exposure hazard; onetime overexposure can be fatal). Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); **3** (Class IB and IC flammable liquids with flash points below 38°C [100°F]); **4** (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]. Reactivity Hazard: **0** (normally stable); 1 (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).

NATIONAL FIRE PROTECTION ASSOCIATION: Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure could cause death or major residual injury). Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD_{50}** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC_{50}** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m^3** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information: BEI** - ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV. **Ecological Information:** EC is the effect concentration in water. **BCF** = Bioconcentration Factor, which is used to determine if a substance will concentrate in lifeforms which consume contaminated plant or animal matter. Coefficient of Oil/Water Distribution is represented by **log K_{ow}** or **log K_{oc}** and is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:

U.S. AND CANADA: This section explains the impact of various laws and regulations on the material. **U.S.: EPA** is the U.S. Environmental Protection Agency. **DOT** is the U.S. Department of Transportation. **SARA** is the Superfund Amendments and Reauthorization Act. **TSCA** is the U.S. Toxic Substance Control Act. **CERCLA (or Superfund)** refers to the Comprehensive Environmental Response, Compensation, and Liability Act**)**. Labeling is per the American National Standards Institute (**ANSI Z129.1**). **CANADA: CEPA** is the Canadian Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **TC** is Transport Canada. **DSL/NDSL** are the Canadian Domestic/Non-Domestic Substances Lists.

EUROPEAN and INTERNATIONAL: EC is the European Community (formerly known as the **EEC,** European Economic Community). **EINECS:** This the European Inventory of Now-Existing Chemical Substances. **IMO** is the International Maritime Organization. The **ARD** is the European Agreement Concerning the International Carriage of Dangerous Goods by Road and the **RID** are the International Regulations Concerning the Carriage of Dangerous Goods by Rail.

IPEX

GHS SAFETY DATA SHEET

XIRTEC 11 GRY Low VOC PVC Plastic Pipe Cement

Date Revised: **NOV 2014**
Supersedes: **JUN 2013**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **XIRTEC 11 GRY Low VOC PVC Plastic Pipe Cement**

PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe

SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800.255-3924, 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
H351: Suspected of causing cancer	P501: Dispose of contents/container in accordance with local regulation
EUH019: May form explosive peroxides	

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	40 - 50
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	5 - 15
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	3 - 11
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	9 - 18

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke

	HMIS	NFPA	
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (111°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion. Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Gray, heavy syrupy liquid		
Odor:	Ketone	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.966 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Heavy bodied
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 510 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation:	Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact:	Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact:	Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion:	May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

Toxicity:	LD_{50}	LC_{50}
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510 g/l.
Degradability:	Not readily biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Adhesives
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1133
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant

Symbols: F, Xi

Risk Phrases:
R11: Highly flammable.
R20-Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

Safety Phrases:
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

SECTION 16 - OTHER INFORMATION

Specification Information:		All ingredients are compliant with the requirements of the European
Department issuing data sheet:	Safety Health & Environmental Affairs	Directive on RoHS (Restriction of Hazardous Substances).
Training necessary:	Yes, training in practices and procedures contained in product literature.	
Reissue date / reason for reissue:	11/12/2014 / Updated GHS Standard Format	
Intended Use of Product:	Solvent Cement for PVC Plastic Pipe	

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

GLUE Off
1616 MILSTEAD ROAD
CONYERS GA
30207
1-800-245-3486

06-01-92

HAZARD RATINGS

HEAT		
FLAMMABILITY	2	1=slight
REACT		2
		3
		4

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURED FOR	: GLUE OFF	CHEM INFO PHONE	:	800-245-3486
ADDRESS	: 1616 MILSTEAD AVENUE	GENERAL INFO	:	800-245-3486
	: CONYERS, GA 30207	CHEM EMERGENCY	:	800-255-3924
PRODUCT NAME	: GLUE OFF	DATE PREPARED	:	JUNE 23, 1992
PRODUCT CODE	: ORGANIC SOLVENT	PREPARER	:	T. W. SMOOT

SECTION II - HAZARDOUS INGREDIENTS

NAME	: NONE	CAS#

SECTION III - PHYSICAL DATA

BOILING POINT	: NOT DETERMINED	PH(NEAT)	:	NA
SPECIFIC GRAVITY (HOH=1)	: 0.82	PH, 1% SOL	:	NA
VAPOR PRESENT	: MMHG @ 20C NOT DETERMINED	SOLUBILITY	:	DISPERSIBLE IN WATER
VAPOR DENSITY (AIR=1)	: HEAVIER THAN AIR	EVAPORATION RATE	:	HOH=1
% VOLITILES/VOLUME	: 92%			
APPEARANCE AND ODOR	: CLEAR WATER THIN LIQUID WITH CITRUS ODOR.			
PHOTO CHEM. REACTIVITY	: NO			

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT	: 120F TOC	TEST METHOD	:	T. C. C.
FLAMMABILITY LIMITS IN AIR				
% BY VOL	: ND LOWER ND UPPER			
EXTINGUISHING MEDIA	: CARBON DIOXIDE, FOAM OR DRY CHEMICAL			
SPECIAL FIRE FIGHTING PROCEDURES	: NOT KNOWN, TREAT AS COMBUSTIBLE OR FLAMMABLE, AS APPROPRIATE.			
UNUSUAL FIRE FIGHTING HAZARD	: NOT KNOWN			

SECTION V - HEALTH HAZARD INFORMATION

EFFECTS OF OVER EXPOSURE
: EYES - CAN CAUSE SEVER IRRITATION, TEARING AND REDNESS; BLURRED VISION
: SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE IRRITATION, SKIN DEFATTING, DERMATITIS
: INHALATION - EXCESSIVE INHALATION OF VAPORS MAY CAUSE IRRITATION OF RESPIRATORY TRACT, NAUSEA, DIZZINESS OR HEADACHE.
: SWALLOWING - CAN CAUSE SERIOUS HEALTH EFFECTS; NAUSEA, VOMITING.

EMERGENCY FIRST AID
: EYES - FLUSH WITH WATER FOR 15 MINUTES, GET MEDICAL ATTENTION.
: SKIN - WASH WELL WITH SOAP AND WATER; REMOVE CONTAMINATED CLOTHING.
: INGESTION - INDUCE VOMITING. GET MEDICAL HELP AT ONCE.
: INHALATION - REMOVE TO FRESH AIR; GET MEDICAL HELP IF DIFFICULTIES ARE NOT ELIMINATED.

CONTROL MEASURES : KEEP CONTAINER CLOSED. STORE AWAY FROM OPEN FLAME.

SPILLS : REMOVE IGNITION SOURCE. CONTAIN AND ABSORB WITH SUITABLE ABSORBENT FOR DISPOSAL.

IPEX

GHS SAFETY DATA SHEET

Date Revised: **JAN 2017**

IPEX 4 CLR Low VOC General Purpose Cement for PVC Plastic Pipe Supersedes: **NOV 2014**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **IPEX 4 CLR Low VOC General Purpose Cement for PVC Plastic Pipe**

PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe

SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800-255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
H351: Suspected of causing cancer	P501: Dispose of contents/container in accordance with local regulation
EUH019: May form explosive peroxides	

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	25 - 50
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	5 - 36
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	15 - 30

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke

	HMIS	NFPA	
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (111°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

Personal Protective Equipment (PPE):

Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.

Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, medium syrupy liquid		
Odor:	Ketone	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	66°C (151°F) to 156°C (313°F)
Boiling Point:	66°C (151°F) Based on first boiling component: THF	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on THF	**Flammability:**	Category 2
Specific Gravity:	0.9611 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 11.8% based on THF
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	129 mm Hg @ 20°C (68°F)based on THF
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 510 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous decomposition products: None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.

Incompatible Materials: Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: None Known

Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510 g/l.

Degradability: Not readily biodegradable

Bioaccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Adhesives
Hazard Class: 3
Secondary Risk: None
Identification Number: UN 1133
Packing Group: PG II
Label Required: Class 3 Flammable Liquid
Marine Pollutant: NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Risk Phrases:
R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

Safety Phrases:
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

SECTION 16 - OTHER INFORMATION

Specification Information: All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Department issuing data sheet: Safety Health & Environmental Affairs

Training necessary: Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue: 1/19/2017 / Updated GHS Standard Format

Intended Use of Product: Solvent Cement for PVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPEX

GHS SAFETY DATA SHEET

Date Revised: **JAN 2017**

IPEX 636 CLR Low VOC Primer for PVC and CPVC Plastic Pipe

Supersedes: **NOV 2014**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **IPEX 636 CLR Low VOC Primer for PVC and CPVC Plastic Pipe**

PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe

SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
H351: Suspected of causing cancer	P501: Dispose of contents/container in accordance with local regulation
EUH019: May form explosive peroxides	

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	45 - 59
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	19 - 29
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 20
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 15

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:
Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon and smoke

	HMIS	NFPA	
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (111°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, thin liquid		
Odor:	Ethereal	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.858 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Water-thin
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 550 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 550 g/l.
Degradability:	Not readily biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 1L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

Risk Phrases:

R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

Safety Phrases:

S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

SECTION 16 - OTHER INFORMATION

Specification Information:	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
Department issuing data sheet:	Safety Health & Environmental Affairs
Training necessary:	Yes, training in practices and procedures contained in product literature.
Reissue date / reason for reissue:	1/19/2017 / Updated GHS Standard Format
Intended Use of Product:	Primer for PVC and CPVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPEX

GHS SAFETY DATA SHEET

Date Revised: **JAN 2017**

XIRTEC 7 CLR Low VOC Primer for PVC and CPVC Plastic Pipe

Supersedes: **NOV 2014**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **XIRTEC 7 CLR Low VOC Primer for PVC and CPVC Plastic Pipe**

PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe

SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word: **Danger**

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
H351: Suspected of causing cancer	P501: Dispose of contents/container in accordance with local regulation
EUH019: May form explosive peroxides	

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	45 - 59
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	19 - 29
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 20
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 15

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon and smoke

	HMIS	NFPA	
Health	2	2	0-Minimal
Flammability	3	3	1-Slight
Reactivity	0	0	2-Moderate
PPE	B		3-Serious
			4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (111°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, thin liquid		
Odor:	Ethereal	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.858 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Water-thin
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 550 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 550 g/l.
Degradability:	Biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 1L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information:	Highly Flammable, Irritant, Carc. Cat. 2	Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia
Symbols:	F, Xi	AICS, Korea ECL/TCCL, Japan MITI (ENCS)
Risk Phrases:	R11: Highly flammable.	
	R20: Harmful by inhalation.	R66: Repeated exposure may cause skin dryness or cracking
	R36/37: Irritating to eyes and respiratory system.	R67: Vapors may cause drowsiness and dizziness
Safety Phrases:	S9: Keep container in a well-ventilated place.	S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S16: Keep away from sources of ignition - No smoking.	S33: Take precautionary measures against static discharges.
	S25: Avoid contact with eyes.	S46: If swallowed, seek medical advise immediately and show this container or label.

SECTION 16 - OTHER INFORMATION

Specification Information:		All ingredients are compliant with the requirements of the European
Department issuing data sheet:	Safety Health & Environmental Affairs	Directive on RoHS (Restriction of Hazardous Substances).
Training necessary:	Yes, training in practices and procedures contained in product literature.	
Reissue date / reason for reissue:	1/19/2017 / Updated GHS Standard Format	
Intended Use of Product:	Primer for PVC and CPVC Plastic Pipe	

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPEX

GHS SAFETY DATA SHEET

XIRTEC 7 PUR Low VOC Primer for PVC and CPVC Plastic Pipe

Date Revised: **NOV 2014**
Supersedes: **JUN 2013**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **XIRTEC 7 PUR Low VOC Primer for PVC and CPVC Plastic Pipe**

PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe

SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
H351: Suspected of causing cancer	P501: Dispose of contents/container in accordance with local regulation
EUH019: May form explosive peroxides	

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	45 - 59
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	19 - 29
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 20
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 15

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon and smoke

	HMIS	NFPA	
Health	2	2	0-Minimal
Flammability	3	3	1-Slight
Reactivity	0	0	2-Moderate
PPE	B		3-Serious
			4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (111°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Purple, thin liquid		
Odor:	Ethereal	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.858 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Water-thin
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 550 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation:	Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact:	Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact:	Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion:	May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 550 g/l.
Degradability:	Not available
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1993
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 1L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Risk Phrases:
R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

Safety Phrases:
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

SECTION 16 - OTHER INFORMATION

Specification Information:	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
Department issuing data sheet:	Safety Health & Environmental Affairs
Training necessary:	Yes, training in practices and procedures contained in product literature.
Reissue date / reason for reissue:	11/13/2014 / Updated GHS Standard Format
Intended Use of Product:	Primer for PVC and CPVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

CANTEX

GHS SAFETY DATA SHEET

Date Revised: **JAN 2015**

CANTEX #50 AQA/BLU Low VOC Primer for PVC and CPVC Plastic Pipe Supersedes: **MAY 2013**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **CANTEX #50 AQA/BLU Low VOC Primer for PVC and CPVC Plastic Pipe**

PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL: 

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H335: May cause respiratory irritation	P280: Wear protective gloves/protective clothing/eye protection/face protection
H336: May cause drowsiness or dizziness	P337+P313: Get medical advice/attention
H351: Suspected of causing cancer	P403+P233: Store in a well ventilated place. Keep container tightly closed
EUH019: May form explosive peroxides	P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	45 - 60
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	4 - 15
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	14 - 25

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke

	HMIS	NFPA	
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Aqua Blue, medium syrupy liquid		
Odor:	Ketone	**Odor Threshold:**	1 ppm (Acetone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 80°C (176°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.924 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.4% based on MEK
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 510g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous decomposition products: None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.

Incompatible Materials: Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

Toxicity:	LD_{50}	LC_{50}	**Target Organs**
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)	STOT SE3
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: None Known

Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510g/l.

Degradability: Not available

Bioaccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Adhesives
Hazard Class: 3
Secondary Risk: None
Identification Number: UN 1133
Packing Group: PG II
Label Required: Class 3 Flammable Liquid
Marine Pollutant: NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2

Symbols: F, Xi

Risk Phrases: R11: Highly flammable. R36/37: Irritating to eyes and respiratory system. R66: Repeated exposure may cause skin dryness or cracking R67: Vapors may cause drowsiness and dizziness

Safety Phrases: S2: Keep out of the reach of children S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking. S25: Avoid contact with eyes. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S33: Take precautionary measures against static discharges.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

SECTION 16 - OTHER INFORMATION

Specification Information: All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Department issuing data sheet: Safety Health & Environmental Affairs

Training necessary: Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue: 1/2/2015 / Updated GHS Standard Format

Intended Use of Product: Primer for PVC and CPVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

IPEX

GHS SAFETY DATA SHEET

AQUARISE PUR Low VOC Primer for PVC and CPVC Plastic Pipe

Date Revised: **JAN 2012**
Supersedes: **NOV 2010**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **AQUARISE PUR Low VOC Primer for PVC and CPVC Plastic Pipe**

PRODUCT USE: Low VOC Primer for PVC and CPVC Plastic Pipe

SUPPLIER: IPEX Inc.
807 Pharmacy Avenue
Scarborough, Ontario M1L 3K2, CAN

MANUFACTURER: IPS Corporation
17109 South Main Street, Carson, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, 813-248-0585 (International) **Medical:** Tel. 800.451.8346, 760.602.8703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2B				

GHS LABEL:   **OR**  

Signal Word: **Danger**

WHMIS CLASSIFICATION: CLASS B, DIVISION 2

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H332: Harmful if inhaled	P280: Wear protective gloves/protective clothing/eye protection/face protection
H335: May cause respiratory irritation	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
H336: May cause drowsiness or dizziness	P403+P233: Store in a well ventilated place. Keep container tightly closed
EUH019: May form explosive peroxides	P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	45 - 59
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	19 - 29
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 15
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	5 - 20

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon and smoke

	HMIS	NFPA	
Health	2	2	0-Minimal
Flammability	3	3	1-Slight
Reactivity	0	0	2-Moderate
PPE	B		3-Serious
			4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL:
Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	
Cyclohexanone	20 ppm	50 ppm	50 ppm	
Acetone	500 ppm	750 ppm	1000 ppm	

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Purple, thin liquid		
Odor:	Ethereal	**Odor Threshold:**	0.88 ppm (Cyclohexanone)
pH:	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	**Boiling Range:**	56°C (133°F) to 156°C (313°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) TCC based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.858 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.1% based on Cyclohexanone
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F) Acetone
Auto-ignition Temperature:	321°C (610°F) based on THF	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Water-thin
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 550 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Hazardous decomposition products: None in normal use. When forced to burn, this product gives off oxides of carbon and smoke.
Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials: Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: None known to humans

Toxicity:

	LD_{50}	LC_{50}
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m^3 (rat)
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: None Known
Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 550 g/l.
Degradability: Biodegradable
Bioaccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
Hazard Class: 3
Secondary Risk: None
Identification Number: UN 1993
Packing Group: PG II
Label Required: Class 3 Flammable Liquid
Marine Pollutant: NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 1L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	Flammable Liquid, n.o.s. (Acetone, Tetrahydrofuran)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant
Symbols: F, Xi
Risk Phrases: R11: Highly flammable.
R20: Harmful by inhalation.
R36/37: Irritating to eyes and respiratory system.
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

Safety Phrases: S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S25: Avoid contact with eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33: Take precautionary measures against static discharges.
S46: If swallowed, seek medical advise immediately and show this container or label.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

SECTION 16 - OTHER INFORMATION

Specification Information:
Department issuing data sheet: IPS, Safety Health & Environmental Affairs
E-mail address: <EHSinfo@ipscorp.com>
All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Training necessary: Yes, training in practices and procedures contained in product literature.
Reissue date / reason for reissue: 1/4/2012 / Updated GHS Standard Format
Intended Use of Product: Primer for PVC and CPVC Plastic Pipe

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

QUADRANT
ENGINEERING PLASTIC PRODUCTS

MATERIAL SAFETY DATA SHEET

Date last revised 8/11/08 By M. Lykins **MSDS-22**

I. Chemical Product and Company Identification

Chemical Name & Synonyms **Poly Vinyl Chloride**	**Trade Name & Synonyms** **PVC**
Chemical Family **Vinyl Resin-Chlorothene Polymer**	**Formula** **(ch3Cl)n**
Proper DOT Shipping Name: N/A	**DOT Hazard Classification: N/A**
Manufacturer: Quadrant EPP USA, Inc. **2120 Fairmont Avenue.** **Reading, PA 19605** **(610) 320-6600**	**Chemtrec Phone Number** **1-800-424-9300**

II. Ingredients

Principal Components	Percent	Threshold Limit Value
Polyvinyl Chloride (9002-86-2)	>99%	
Residual Vinyl Chloride Monomer 75-01-4	<8.5 ppm	5 ppm
Organotin Compounds 2,4,5,6	<5.0%	0.1 (mg/m^3) (skin as Sn)
Calcium Carbonate 1317-65-3	<5.0%	10 (mg/m^3)
Calcium Stearate 1592-23-0	<5.0%	10 (mg/m^3)

III. Physical Data

Boiling Point (Deg. F.) **N/A**	**Specific Gravity (H20=1)** **1.4+-0.02**
Vapor Pressure (mm Hg) **N/A**	**Percent Volatile By Volume (%)** **N.E.**
Vapor Density (Air=1) **N/A**	**Evaporation Rate (Air =1)** **N/A**
Solubility in Water **N.E.**	**pH** **N/A**
Appearance & Odor **Black or gray solid.**	

IV. Fire & Explosion Hazard Data

Flash Point (Test Method) **391 deg C ASTM-D-1929**		**Auto Ignition Temperature** **454 deg. C ASTM D-1929**
Flammable Limits **N/A**	**LEL** **N/A**	**UEL** **N/A**

Extinguishing Media

Water, AFFF Protein, Dry Chemical

Special Fire Fighting Procedures

NFPA Class A fire. CO2 not recommended. Wear positive pressure, self-contained breathing apparatus.

Unusual Fire & Explosion Hazards

PVC is difficult to ignite. It will self-extinguish in the absence of substantial heat and flame. PVC decomposes during combustion and generates Hydrogen Chloride which acts as a flame quencher in the vapor phase. Hydrogen Chloride can combine with water to form Hydrochloric Acid, a corrosive compound.

QUADRANT
ENGINEERING PLASTIC PRODUCTS

MATERIAL SAFETY DATA SHEET

V. Health Hazard Data

OSHA Permissible Exposure Limit	ACGIH Threshold Limit Value
Not Established	Not Established
Carcinogen - NTP Program	**Carcinogen - IARC Program**
NO	NO

Symptoms of Exposure

Irritation of the eyes and respiratory tract

Medical Conditions Aggravated By Exposure

None known, however, seek medical attention if constant irritation occurs. If thermal decomposition occurs, upper respiratory, eye, nose, and throat irritation may result.

Primary Route(s) of Entry

Inhalation of particulates.

Emergency First Aid

Molten material. If molten material comes in contact with the skin, cool under running water. Do not attempt to remove the molten material from the skin. Get medical attention.

VI. Reactivity Data

STABILITY ___ Unstable	Conditions To Avoid
_X_ Stable	None Known
INCOMPATABILITY	Materials To Avoid
Hazardous __ May Occur	Strong oxidizing agents.
Polymerization _X_ Will Not Occur	Conditions To Avoid
	None Known

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrogen chloride, benzene, aromatic and aliphatic hydrocarbons.

VII. Environmental Protection Procedures

Spill Response

Sweep up for Disposal or reuse.

Waste Disposal Method

Dispose of in accordance with Federal, State and Local regulations. Not hazardous using TCLP-40 CFR 261 App. II

VIII. Special Protection Information

Eye Protection	Skin Protection
Glasses with side shields.	Use insulated gloves when handling molten material.

Respiratory Protection (Specific Type)

NIOSH approved chemical respirator recommended. If material is being heated, wear an organic respirator.

Ventilation Recommended - Local ventilation in dusty conditions or if thermal decomposition occurs.

Other Protection: Gloves and protective garments when handling molten material.

IX. Special Precautions

Hygienic Practices In Handling & Storage: Wash with soap and water.

Precautions For Repair & Maintenance Of Contaminated Equipment: Eliminate ignition sources.

Other Precautions: Dust on floors and walkways can be a slipping hazard.

QUADRANT
ENGINEERING PLASTIC PRODUCTS

MATERIAL SAFETY DATA SHEET

X. Regulatory Information

OSHA Status: PVC is not considered hazardous under OHSA.

TSCA Inventory Status: All ingredients are listed.

CERCLA Reportable Quantity (RQ): None

SARA Title III:

Section 302/304.No extremely hazardous substances

Section 311/312.No reporting requirements although it is suggested that storage of >10,000 lbs of PVC in one facility should be listed on a Tier II report.

Section 313: No reporting requirements.

Hazard data contained herein was obtained from raw material suppliers. The information presented is believed to be factual, as it was derived from the works and opinions of persons believed to be qualified. However, no facts contained in the information are to be taken as a warranty, or representation, for which Quadrant EPP USA Inc. bears legal responsibility. The user should review any recommendation in the specific context of the intended use to determine if they are appropriate.

N.A.= Not Applicable N.E.= Not Established

MSDS 71668

71668: Electrical Tape 3/4" X 60' [10]
MSDS Last updated: 10/03/2007

GLOBE INDUSTRIES CORPORATION
MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION DATE: MAY 15, 2000
Trade Name: PVC Adhesive Tape
Chemical Name: Polyvinyl chloride Adhesive Tape
Components: This material is composed by the following ingredients:
Substrate: Plasticized Polyvinyl - chloride film
Primer: Synthetic rubber, Monomer, Accelerator
Adhesive: Natural rubber base adhesive
Manufacturer's Name: Glove Industries Corporation
Address: 7F. No. 61, sec 3, Nan-King East Road, Taipei, Taiwan, R.O.C.
Phone No: 886-2-2506-6666
Fax No. 886-2-2507-9988
EMERGENCY CONTACT PHONE NO. - 800-255-3924 with the United States
813-248-0585 outside of the United States

SECTION II - PHYSICAL DATA

Boiling Point: N/A Specific Gravity: 1.20~1.60
Vapor Pressure (mm Hg): N/A Percent Volatile: Below 2.0
Solubility in Water: Not Soluble Evaporation Rate: N/A
Appearance and Odor: Solid Plastic Roll, Slight Characteristic Odor
*N/A: No applicable information found.

SECTION III - FIRE HAZARD DATA

Because PVC compounds contain chlorine in the polymer molecule, these materials are difficult to ignite. Like all organic materials, this product is combustible and will burn by application of intense heat. Protect from open flame and maintain proper clearance when using heating devices, etc.

UNUSUAL FIRE HAZARD
Static sparking can occur during processing. Flammable materials should be Removed from the immediate vicinity or controlled. The use of static suppressants and grounding devices is recommended.
When burned the hazardous decomposition products that will result because of incomplete combustion include carbon monoxide, other unidentified products of hydrocarbon degradation, NOx, low-level cyanides and hydrogen chloride.

EXTINGUISHING MEDIA
Dry chemical, foam, water fog or spray.

SPECIAL FIRE FIGHTING PROCEDURES
Wear full protective equipment and NIOSH approved pressure demand, self-contained breathing apparatus.

SECTION IV - REACTIVITY DATA

Chemical Stability: Stable
Hazardous Polymerization: Will Not Occur
Hazardous Decomposition: Hydrogen chloride, carbon monoxide, low-level cyanides and NOx, and other unidentified products of hydrocarbon degradation.

SECTION V - HAZARDOUS INGREDIENTS

Plasticized PVC tape is composed of rubber, resin, plasticizers, stabilizers, processing aides, modifiers, pigments, inerts, and residual solvent, as do most plastic products contains chemicals which can be hazardous. These chemicals,

however, are mixed and bound in the plastic and not release except under extreme circumstance such as fire.

POTENTIALLY TOXIC INGREDIENTS

Ingredient	%	ACGIH TLV	OSHA	PEL
Cadmium	<0.2	0.05 mg/m3	0.2	mg/m3
Lead	<5.0	0.15 mg/m3	0.05	mg/m3
Antimony	<3.5	0.5 mg/m3	0.5	mg/m3
Chromates	<2.0	0.05 mg/m3	0.1	mg/m3
Organic Plasticizers	<45	3 mg/m3	.3	mg/m3
Aliphatic Hydrocarbons	<2.5	2000 mg/m3	500	ppm

SECTION VI - HEALTH HAZARD DATA

EFFECTS OF OVER EXPOSURE

ACUTE:
Vapors and fumes from processing (especially at elevated temperatures) may cause irritation of the eyes, nose, throat and upper respiratory tract.
CHRONIC:

The following materials are well encapsulated components of the product and are not believed to constitute an exposure hazard under traditional handling conditions.

LEAD:
The early effects of lead poisoning are nonspecific and, except by laboratory testing are difficult to distinguish from the symptoms of minor seasonal illness. The symptoms are deceased physical fitness, fatigue, sleep disturbance, headache, aching bones and muscles, digestive symptoms (Particularly constipation), abdominal pains and decreased appetite. These systems are reversible complete recovery is possible.

ANTIMONY:
Antimony compounds are generally less toxic than antimony. Principal organs attacked include certain enzyme systems (protein and carbohydrate metabolism),heart, lungs, and the mucous membrane of the respiratory tract. Chronic poisoning presents symptoms of dry throat, nausea, headache, sleeplessness, loss of appetite and dizziness. Liver and kidney degenerative changes are late manifestations.

CHROMATES:
Chromate salts are recognized carcinogens of the lungs, nasal cavity and paranssal sinus.

ALIPHATIC HYDROCARBONS:
The vapors of petroleum distillates are mild narcotics and mucous membrane irritants. Continuing exposure may produce signs of inebriation, followed by headache or nauseas. No chronic systemic effects have been reported from widespread industrial use.

ORGANIC PLASTICIZERS:
The vapors of the organic plasticizers used to flexibilize the PVC resin are not considered to present a significant health risk when the film they are in is post processed in a traditional manner. Processing is a manner which results in the accumulation procedures that keep the workplace exposure below that specified in your local code. Effects of overexposure to these organic plasticizer vapors include moderate irritation to the skin, eyes and mucous membranes. Because product performance requirements vary, the opportunity exists for plasticizer mixture of phthalates, adulates, aerates, tri-militates, chlorinated hydrocarbons, soy's, polymeric, and phosphates. The phosphates used do not exhibits cholinesterase depression or other neurotoxicity.

FIRST AID PROCEDURE:

This product has no known toxic hazard. Toxic fumes and gases may be produced by combustion or high temperature decomposition.
For exposure to products of decomposition.

SKIN:
Flush skin thoroughly with soap and cool water for at least five minutes.

EYES:
Immediately flush eyes with potable water for at least 15 minutes, while forcible holding eyelids apart, SEEK MEDICAL ATTENTION.

INHALATION:
Remove to fresh air. If breathing is difficult, administer oxygen.
If respiration stops, give mouth-to-mouth resuscitation.
SEEK MEDICAL ATTENTION.

INGESTION:
Not deemed to be a normal route of exposure.

NOTE TO PHYSICIAN:
Material has no significant toxic hazard. Hazardous fumes and gases that result from Incomplete combustion and decomposition are carbon monoxide, low level cyanides hydrogen chloride, NOx, and other unidentified products of hydrocarbon degradation.

SECTION VII - LEAK AND DISPOSAL PROCEDURES:

SECTION VIII - SPECIAL PROTECTION INFORMATION:
PROTECTIVE GLOVES
Use heavy cotton or insulated gloves to handle hot plastics.
EYE PROTECTION
Safety glasses with side shields are recommended for all industrial workplaces.

VENTILATION AND RESPIRATORY PROTECTION.
Process, which generates vapors, dust or fumes, should be performed with adequate ventilation. If necessary use NIOSH approved chemical cartridge respirator.

SECTION IX - SPECIAL PRECAUTIONS
Store away from easily ignited chemicals and materials or open flames.

Safety Data Sheet (SDS)

Printing Date: 06/28/2013

1. Product and Company Identification

Product:

Product Name: SS-108 Silicone Adhesive Sealant
Intended Use: Sealant

Manufacturer/Supplier:

Silicone Solutions
338 Remington Road
Cuyahoga Falls, OH
Preparer: Casey Linx
Chemical Family: Silicone Rubber
Emergency Telephone Number: 330-920-3125

2. Hazards Identification

Hazard Classification:

This material's composition is slightly hazardous according to regulatory guidelines. *See Section 15 for hazard ratings*.

Label:

Symbol: Irritant

Signal Word: Warning

Hazard Statements:

Physical: None known
Health:

Ingestion	None known.
Skin Contact	Uncured product will irritate lips, gums, and tongue. Uncured product may irritate the skin.
Inhalation	Causes irritation to the mouth, nose, and throat. This applies in the uncured state only.
Eye Contact	Uncured product contact irritates eyes.
Medical Conditions Aggravated	None known.
Subchronic (target organ) Effects	None known.
Chronic Effects/Carcinogenity	This product or one of its ingredients that is present in 0.1% or more is NOT listed or is suspected as a carcinogen by NTP, IARC, or OSHA.
Principle Routes of Exposure	None known.

Precautionary Statements:

General: Obtain special instructions before use, and do not handle until all safety precautions have been read and understood.

Other Hazard Information:

- This product contains methylpolysiloxanes, which can generate formaldehyde upon exposure above 300 degrees centigrade in atmospheres that contain oxygen. Formaldehyde is a skin, eye, and throat irritant.
- Acetic acid is released during cure.

3. Composition/Information on Ingredients

Chemical Characterization:

Formula: Mixture

Composition and Information on Ingredients: Non-hazardous components of the mixture unless otherwise specified.

Component	CAS #	Approximate % Weight
Polydimethylsiloxane	70131-67-8	45-60
Dimethylpolysiloxane	63148-62-9	15-50
Silica	68611-44-9	10-19
Methyltriacetoxysilane	4253-34-3	3.0-12.0
Trade Secret Component	--	2-8
Trade Secret Component	--	1-5
Dibutyltindilaurate	77-58-7	0.1-3.0

4. First Aid Measures

General Information:

Ingestion: Rinse mouth with water several times.
Skin: Remove completely with dry cloth or paper towel. Wash with soap and water.
Inhalation: Remove person to fresh air and keep comfortable for breathing.
In case of eye contact: Flush with water for fifteen minutes and get medical attention if irritation persists.

Note to Physician: None known.

5. Firefighting Measures

Flammability Properties:

Flash Point: > 300 or 600
Ignition Temperature: Unknown
Flammable Limits in Air-Upper % : NA
Flammability Limits in Air-Lower % : NA
Sensitivity to Mechanical Impact: No
Sensitivity to Static Discharge: No

Extinguishing Media: All standard firefighting material.

Special Firefighting Procedures: None known.

6. Accidental Release Measures

Action to be taken if material is released or spilled: Scrape up and place in an inert material for disposal. *See Section 8 for protective equipment upon exposure and Section 7 for information on safe handling.*

7. Handling and Storage

Precautions to be taken during handling and storage: Cure only where appropriate ventilation systems exist, as seen in *Section 8*.

8. Exposure Controls/Personal Protection

Control Parameters:

Components with limit values that require monitoring at the workplace:

Component	CAS #	ACGIH TWA	TLV STEL	OSHA TWA	PEL STEL
Polydimethylsiloxane	70131-67-8	--	NE	--	NE
Dimethylpolysiloxane	63148-62-9	NE	NE	NE	NE
Silica	68611-44-9	6 mg/m^3	10 mg/m^3	6 mg/m^3	10 mg/m^3
Methyltriacetoxysilane	4253-34-3	10 ppm	NE	10 ppm	NE
Trade Secret Component	--	NE	NE	NE	NE
Trade Secret Component	--	NE	NE	NE	NE
Dibutyltindilaurate	77-58-7	NE	0.1 mg/m^3	NE	0.1 mg/m^3

Note: All solid powders are fully encapsulated in the cured and uncured product and are not hazardous in this form.

Exposure Controls and Protection:

Engineering Controls: None known.
Respiratory Protection: None required.
Protective Gloves: Cloth gloves.
Eye and Face Protection: Safety glasses.
Other Protective Equipment: None required.
Ventilation: Cure in well-ventilated areas.

9. Physical and Chemical Properties

Information on basic physical and chemical properties:

Boiling Point: NA
Vapor Pressure: NA
Vapor Density: NA
Freezing Point: NA
Melting Point: NA
Physical State: Paste.
Odor: Vinegar.
% Volatile by Volume: < 3
Evaporation Rate: < 1
Specific Gravity: 1.09
Density (kg/m^3): 1090
Acid/Alkalinity: Slightly acidic.
pH: NA
VOC: NT
Solubility in Water: Insoluble.
Solubility in Organic Solvents: Partially soluble in toluene.

10. Stability and Reactivity

Chemical Stability:

Stability: Stable.

Reactivity:

Hazardous Polymerization: Will not occur.
Hazardous Thermal Decomposition/Combustion Products:

- Carbon Dioxide
- Carbon Monoxide
- Silicon Dioxide
- Formaldehyde
- Acetic Acid

Conditions to Avoid: None known.

11. Toxicological Information

Product Information on Toxicological Effects:

Acute Oral LD50: Unknown.
Acute Dermal LD50: Unknown.
Acute Inhalation LC50: Unknown.
Ames Test: Unknown.

12. Ecological Information

Ecotoxicity:

Ecotoxicological Information: Unknown.
Chemical Fate Information: Unknown.

13. Disposal Considerations

Disposal Method: Disposal should be made in accordance with federal, state, and local considerations.

14. Transport Information

General:

DOT Shipping Name: NA
DOT Hazard Class: Not DOT regulated
DOT Label: NA
UN/NA Label: NA
Placards: None
IATA: NA
IMO IMDG-code: NA
European Class:
RID (OCTI): NA
ADR (ECE): NA
RAR (IATA): NA

15. Regulatory Information

Regulatory Status and Applicable Laws and Regulations:

SARA Section 302: None found.
SARA (311, 312) Hazard Class: None.
SARA (313) Chemicals: None.

CPSC Classification: NA
WHMIS Hazard Class: None.
Export Schedule:
B/HTSUS: 3910.00 Silicones in primary form.
ECCN: EAR99
California Proposition 65: None.
TSCA Inventory Status: All components are of this product are listed (or exempt) on the EPA TSCA inventory.

Hazard Rating Systems:

HMIS (scale 0-4):

- Health = 1
- Flammability = 0
- Reactivity = 0

NFPA (scale 0-4):

- Health = 1
- Flammability = 0
- Reactivity = 0

16. Other Information

Revision Date: 06/20/2013
SDS Preparer: Casey Linx

This product or its components are on the European inventory (EINECS) of existing commercial chemicals. This data is offered in good faith as typical values and not as a product satisfaction. No warranty, either expressed or implied, is made. The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific content of the intended use.

Abbreviations and Acronyms:

OSHA: Occupational Safety and Health Administration
ACGIH: American Conference of Governmental Industrial Hygienists
LD50: Lethal Dose, 50 percent
LC50: Lethal Concentration, 50 percent
DOT: US Department of Transportation
IATA: International Air Transport Association
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)

Franklin International

Safety Data Sheet

Titebond Original Wood Glue

Section 1. Identification

GHS product identifier : Titebond Original Wood Glue

Other means of identification : None known.

Product type : Liquid.

Address : Franklin International
2020 Bruck Street
Columbus OH 43207

Contact person : Franklin Technical Services

Telephone : (800) 877-4583

In case of emergency : Franklin Security
(614) 445-1300

Reference number : 2213

Product code : 50609

Date of revision : 7/31/2015.

Print date : 7/31/2015.

Chemtrec (24 Hour) : (800) 424 - 9300

Chemtrec International : (703) 527 - 3887

Chemical family : Adhesive.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Industrial use wood glue.
Wide dispersive use of substances in professional and DIY adhesives.

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 5.7%

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Hazardous ingredients

United States

Name	CAS number	%
No hazardous ingredient		

Canada

Name	CAS number	%
No hazardous ingredient		

Mexico

					Classification			
Name	CAS number	UN number	%	IDLH	H	F	R	Special
No hazardous ingredient								

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 4. First aid measures

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 4.4444 to 32.222°C (40 to 90°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

Ingredient name	Exposure limits
No exposure limit value known.	

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
No exposure limit value known.											

Mexico

Occupational exposure limits

Ingredient	Exposure limits
No exposure limit value known.	

Consult local authorities for acceptable exposure limits.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Yellow.

Odor : Faint odor.

Odor threshold : Not available.

pH : 3.8 to 4.7

Melting point : Not available.

Boiling point : 98.889°C (210°F)

Flash point : Closed cup: Not applicable.

Evaporation rate : <1 (butyl acetate = 1)

VOC (less water, less exempt solvents) : 10.7 g/l

Relative density : 1.1

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Inhalation.
Routes of entry not anticipated: Dermal.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 12. Ecological information

Toxicity

Conclusion/Summary : Not available.

Persistence and degradability

Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts : None of the components are listed.

Section 15. Regulatory information

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

Not available.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Not applicable.				

Canada

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :

International regulations

International lists : **Australia inventory (AICS)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: Not determined.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan inventory (CSNN): Not determined.

Europe : Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing : 7/31/2015.

Date of issue/Date of revision : 7/31/2015.

Date of previous issue : 6/2/2015.

Version : 4.2

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.